

regulating the engineering profession



MESSAGE FROM THE CHAIRMAN

Despite the pressures of standards making, the Board and its committees continued to reflect the needs of industry, Institutions and registrants. Both the Executive Director and myself have visited a wide range of employers and met with many senior engineers both inside and outside the professional Institution network. Every opportunity has been taken to address assemblies of engineers and potential registrants with an especial emphasis this year on making progress with the armed forces. In this respect it was especially pleasing to learn that the Royal Navy had agreed to rename its technician class of seaman as Engineering Technicians in succession to the hallowed, but slightly archaic "artificer".

In my final year as Chairman, I must pay particular tribute to the considerable work undertaken on behalf of the profession by Board Members. John Baxter, despite becoming Technical Director of BP International, made time to guide **ECUK**'s financial strategy, while John Ferrie, Group Managing Director – Aerospace, Smiths Group plc, provided valuable advice on marketing and promotion. Rear Admiral Peter Davies, responsible for the Royal Navy's training and recruitment programme was a valuable contributor to the Board, and the Chairmen of the Board's other key committees, Philip Corp, Trevor Evans, Kel Fidler, and David Long, have invested much valuable personal time to guide and develop **ECUK** policy.

However, none of our success would have been possible without the extensive involvement of a wider circle of volunteers, mainly nominated by the Engineering Institutions with whom we work. I also acknowledge the willing co-operation of these Licensed Engineering Institutions in helping us refine and apply the standards developed over the past three years.

SIR COLIN TERRY



Andrew Ramsay

Sir Colin Terry

MESSAGE FROM THE EXECUTIVE DIRECTOR

Having completely overhauled Standards for Registration, **ECUK** spent 2004 working with the Licensed Institutions to develop guidance. May saw publication of the Accreditation Handbook and the Licensing Manual. The Autumn was a period when seminars, workshops and open days were being developed to enable key staff and volunteers in the Institutions to apply the new rules in a consistent manner.

As forecast in the 2004 Review, **ECUK** consolidated its authority as a Regulatory Body by adding Investors In People to ISO9001:2000 accreditation. The Science Council became increasingly interested in modelling its procedures on those of **ECUK**, and let a contract to **ECUK** to manage its registration database including links with its licensed bodies. **ECUK** was consulted by the Quality Assurance Agency for Higher Education in the UK, on developing a benchmark statement based on **ECUK** accreditation guidelines and the **ECUK** was deeply involved in a European Union project to develop accreditation guidelines (EURACE) and hosted a week of workshops on a similar topic for the Washington Accord and EMF group of National Engineering Registration Authorities.

Guided by its first strategic Plan, agreed in early 2004, the Board worked closely with the Engineering and Technology Board (ETB) to explore how registration could be better marketed. A £1M Challenge Fund was launched by ETB in October, which attracted over 20 bids from a variety of organisations eager to promote registration.

A second theme of the Strategic Plan was to improve representation of Engineering Technicians. Amongst a variety of initiatives, **ECUK** ran a major conference "Engineering Technicians – Adding Value to Business" which was opened by the Minister for Science and Innovation. Two new leaflets and a website were also generated and **ECUK** participated in discussions with DTI on ways to promote adoption of Technician Registration.

The third stream of the Strategic Plan was to maintain a watching brief over Bologna Declaration developments. A Bologna fact sheet was published and resource applied to FEANI to assist in maintaining consensus within that body on the need for a common understanding of the qualities of a professional engineer. Meetings with Ministers enabled continued promotion of the MEng degree as a suitable education base for professional engineer recognition.

ANDREW RAMSAY

THE REGISTER

ECUK provides a central Register for 262,832 registrants (1 January 2005) who met standards for entry as Chartered Engineers, Incorporated Engineers or Engineering Technicians, or have satisfied interim registration requirements. The work of assessing individuals against the published

standards is undertaken by Institutions under licenses awarded by **ECUK**. Inevitably, in addition to the losses and gains each year, considerably more Registrants change their addresses, registration status or Institution.

ECUK regards it as essential to be able to communicate accurate information on registration status to aspirant registrants and employers, and to provide efficient backup support to Institution membership departments. We aim to achieve high professional standards and provide a cost-effective service.

REGISTER STATISTICS AT 01/01/05

TOTAL NUMBER OF REGISTRANTS AT 01/01/05: 262,832

| | 2004 | 2003 | New Final Stage Registrants | 2004 | 2003 |
|--|---------|---------|-----------------------------|-------|-------|
| Final Stage Registrants | 244,865 | 248,418 | CEng | 4,518 | 4,504 |
| Interim Registrants | 17,967 | 17,967 | IEng | 484 | 599 |
| Female registrants rose to 6,951 (2003 – 6,729) with the largest growth in Chartered Engineers 5,462 (2003 – 5,136) | | | | | |
| EngTech | 758 | 466 | Total | 5,760 | 5,569 |

The breakdown of Final Stage Registrants was as follows:

| | | |
|--------------|---------|---------|
| CEng | 189,406 | 190,402 |
| IEng | 42,905 | 45,192 |
| EngTech | 12,554 | 12,824 |
| Deaths | 1,497 | 1,312 |
| Other losses | 7,816 | 12,878 |

Overseas Final Stage Registrants

| | | |
|---------|--------|--------|
| CEng | 35,671 | 35,650 |
| IEng | 4,140 | 4,320 |
| EngTech | 1,219 | 1,209 |

The largest number of overseas final stage registrants were based in Hong Kong (9,653); Australia (4,689) and USA (3,611)

% EXPENDITURE

Register maintenance

External liaison and overall strategy

International advice & liaison on common standards and registration

Review of Institutions, and accreditation database

Registration Standards: implementation and monitoring of UK-SPEC



17%

18%

11%

25%

29%

Photograph courtesy of Choe Nast

During the first half of the year the main focus was on completing the work necessary to bring UK-SPEC into force. The detailed (but brief) Regulations to implement UK-SPEC were approved in January, following intensive consultation with Licensed Members, and came into effect from 1 March. Following their publication, a series of workshops, attended by representatives of all licensed Institutions, was held to explain them.

The output standards for accredited degree programmes were published in April, and by the end of 2004 most Institutions licensed to accredit such programmes were well advanced in developing their own standards from these. There are some notable differences in approach between Institutions, and consistency is likely to be a matter for examination in the future.

Publication of the output standards prompted a discussion with the Quality Assurance Agency for Higher Education (QAA) about the need to review the latter's Benchmark statement for engineering degrees, published in 2001, with a view to ensuring convergence between the two statements. The QAA agreed to this and work started in October 2004, with EC^{UK} represented on the steering committee. There is every sign that the desired convergence will be achieved.

Attention then turned to ensuring a smooth introduction of one of the other key innovations of UK-SPEC, the

possibility for applicants without the exemplifying academic qualifications to demonstrate knowledge and understanding by writing a Technical Report. While this brings an added degree of flexibility, it also brings scope for variation in standards. Registration Standards Committee (RSC) established a Technical Report Advisory Group, and a forum and six workshops were held for Institution representatives, to help embed consistency of standards. These provide the basis for a guidance note to be issued early in 2005.

Further task groups enabled RSC to reach conclusions about how Open University degrees on the one hand, and Foundation Degrees on the other, might be treated under UK-SPEC. RSC agreed that some OU programmes could, in principle, be accreditable under UK-SPEC, and encouraged the University to use the DABCE mechanism (see below) to ensure a co-ordinated approach by relevant Institutions.

In the second half of the year, following discussion with all relevant Institutions, it was agreed that EC^{UK} should take over from IEE responsibility for providing the secretariat for the Degree Accreditation Board for Chartered Engineers (DABCE). DABCE organises the accreditation of general engineering degree programmes, and also acts as a forum for the

discussion of accreditation issues.

EC^{UK} is providing the secretariat from 1 January 2005, and it is hoped that this will allow the development of greater consistency in accreditation practice.

RSC is also keeping under review the issue of employer involvement in the Professional Review, and the scope for extending this.

The development of Sector Skills Councils, and their introduction of new qualification frameworks and sector skills agreements, continued to be monitored. These are important in the context of Engineering Technician registration especially, but also have implications for other registration categories. A major conference on Engineering Technicians was held at the end of the year.

Close liaison was maintained with City and Guilds over the administration and marketing of the Engineering Council Examination. This will be reviewed against the output standards for accredited degrees in 2005.

The relationship between international developments and EC^{UK} registration standards becomes ever more marked. Close collaboration between RSC and the International Agreements Panel, especially in the context of the Bologna Declaration, and the emergence of international frameworks for academic accreditation, will continue in 2005.

The new A380 Airbus shown in close-up on the cover and, on the right, as it will look in flight. The pictures are courtesy of Airbus, 2005, all rights reserved.

The picture on the left shows the impressive line up of sail on the quay at Maldon, Essex. A group of EC^{UK} staff enjoyed a weekend sailing Xylonite, a Thames Sailing Barge. We have been invited back to crew in a Barge Match by the owners, the Cirdan Sailing Trust, who provide a challenging opportunity for young people in sailing traditional vessels. www.cirdansailing.com



To be included on the UK Register of Engineers, as a Chartered Engineer (CEng), Incorporated Engineer (IEng) or Engineering Technician (EngTech) candidates must be members of an Institution licensed by **EC^{UK}** to carry out this function in line with the requirements of UK-SPEC. The **EC^{UK}** Quality Assurance [QA] Department is responsible for this licensing process. It is achieved through the QA Committee, which is responsible to the Board, and made up of volunteers from the Institutions. They are backed up by a further team of about 50 volunteers involved in supporting and assisting the Institutions. The process is carried out in line with the **EC^{UK}** Licensing Manual. In the last year The Institute of the Motor Industry (IMI) was approved by the QA Committee as the 36th Licensed Member. In addition there are 14 Professional Affiliates who are not eligible to register candidates but are working towards Licensed Member status.

During 2004 admission of new Licensed Members was discussed on a number of occasions and clarification of the position was approved by the Board. Institutions must demonstrate a significant throughput of new registrants,

normally through a dual membership agreement with an existing Licensed Member, before being considered as a Licensed Member. In addition an initial fee is now payable.

Apart from renewing and amending licences the QA Department is increasingly involved in efforts to improve consistency of Registration and Accreditation activities. Cross Reviews are conducted focusing on processes rather than Institutions in order to facilitate the exchange of best practice. In 2004 these included Reviews of the Professional Review Interview Process and the new Technical Report Process; 2005 Reviews will include the Accreditation and Self Assessment processes. Also contributing to this improvement effort are a number of Seminars that have been held covering the Technical Report Option (part of the Individual Route to Registration in UK-SPEC) and Licensing for Review Panel Members. More are planned for 2005 on other topics which will include Interviewing and Mentoring.

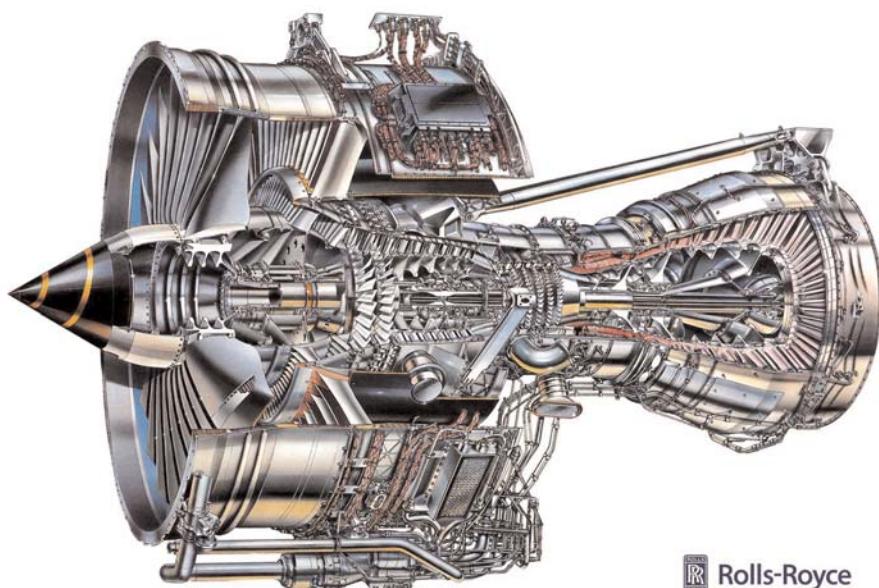
The overall QA objective is to maintain the standards of registration while improving efficiency and effectiveness of the process. This is done by facilitating

greater exchange of best practice and, in doing so, encouraging greater registration.

The QA Department has also issued an EngTech leaflet and introduced a personal logo in order to communicate the qualification more effectively and encourage more registration. This may be extended to IEng and CEng in the future.

Through the QA Department **EC^{UK}** has been developing closer links with the Science Council and the Society for the Environment. These two bodies have recently been awarded charters and are involved in licensing Institutions in order to allow them to award charter titles which are deemed analogous to CEng. Collaboration in the licensing process, which has many common elements, and a number of Institutions licensed by more than one of the bodies, is essential to avoid unnecessary bureaucracy developing.

The QA Department continues to maintain its ISO9001:2000 registration through LRQA and has also been in discussion with other Licensed Members who are, or who plan, to register. Collaboration again will contribute to consistency of approach.



Cutaway of a Rolls-Royce Trent 900 turbo-fan; © Rolls-Royce plc 2004 and is reproduced by permission.

 Rolls-Royce

INTERNATIONAL

The International Panel, chaired by Board Member David Long, provides advice to the Board and monitors the strategic implementation of EC^{UK} international policies. The two main international policymaking organisations in which EC^{UK} participates are the European Federation of National Engineering Associations (FEANI) and the International Engineers' Meeting (IEM), a grouping which comprises the engineering organisations around the world which are signatories to various mutual recognition agreements.

FEANI is recognised by the European Commission as the main organisation representing engineers within the EU and it is increasingly being consulted on issues, such as qualification recognition, services provision, and competition policy, that affect engineers. Hence, it is vital to the UK interest to have its views,

on important matters reflected by FEANI. This continues to be achieved but not without constant vigilance and considerable effort. Regarding recognition of qualifications, the revised Directive should be finalized in 2005 and EC^{UK} will be active in protecting the positions which we have previously achieved.

Worldwide, EC^{UK} has continued its active participation in the IEM by hosting a Working Groups Meeting in June 2005. The major outcomes from this were the drafting of two sets of "international standards". The first is a set of statements which define the professional competences of engineers and technicians and the second is a set of academic program outcomes designed to provide the underpinning knowledge required. It is anticipated that the texts (which are UK-SPEC compatible) will be adopted at IEM 2005 in Hong Kong.

The impetus behind the Bologna Declaration shows no signs of abating and one result has been an increasing interest, not least by the EU Commission, in academic programme accreditation. EC^{UK} is actively participating in the EU funded EURACE project which aims to provide a framework describing the programme outcomes and the accreditation procedures which might enable engineering degree programmes conforming to these criteria to be recognised as equivalent. This is an ongoing project which to date seems to support the principles of UK-SPEC. EC^{UK} will continue its involvement and will also be involved in any follow up – in order to ensure that a "framework" does not turn into a "strait jacket".

EC^{UK} BOARD MEMBERS 2004

Sir Colin Terry KBE CB FREng BSc(Eng) CEng
Professor David Anderson FREng PhD BSc(Eng)
CEng
Mr John Baxter FREng BSc CEng
Mr Amar Bhogal CEng (to September 2004)
Mr John Chapman CEng
Mr Philip J G Corp CB MA CEng
Professor Graham Davies FREng DSc CEng
Rear Admiral Peter R Davies CBE MSc CEng
(to July 2004)

Mr Peter Dipper IEng
Mr Barry Dobson BSc CEng
Dr Trevor J Evans CEng
Dr John Ferrie CBE FREng Eng D BSc CEng
Professor Kel Fidler CEng
Mr Bryan Franklin CEng
Mr Mike Gannaway
Professor Peter Hills MPhil DIC CEng
(to March 2004)
Mr David Long CEng

Dr Peter Melville DEng CEng CPhys
(to March 2004)
Ms Shahana Mirza BEng (Hons) CEng
Mr Alan Mosedale IEng (from July 2004)
Mr George O'Neill CEng (from March 2004)
Mr Colin Porter CEng (from May 2004)
Mr John Prichard BEng CEng
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Ms Michelle Richmond CEng
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