

## Competence Profiles – Guidance for applicants and assessors

### PART 1 — INTRODUCTION

#### **1.1 Membership applications**

The various routes to corporate Membership of the Institution are fully explained in the appropriate guidance notes for applicants and assessors, as are the application procedures to be followed in each case. However, at certain stages in the processing and assessment of an application for Membership or Fellowship and Professional Registration, notably:

- i. preparation by the applicant of a Professional Review Report; and
- ii. preparation by the applicant and by the Interview Panel for the Professional Review Interview itself

experience has shown that further guidance may be beneficial, in the light of the Engineering Council's "UK Standard for Professional Engineering Competence" (UKSPEC 2004) requirement that applicants should be able to demonstrate minimum levels of competence in key areas defined as follows:

<b>The Incorporated Engineer</b>	<b>The Chartered Engineer</b>
<p>UK-SPEC states that Incorporated Engineers must be competent, by virtue of their initial formation and throughout their working life, to:</p> <p><b>A</b> Use a combination of general and specialist mechanical engineering knowledge and understanding to <b>apply</b> existing and emerging technology;</p> <p><b>B</b> Apply appropriate theoretical and practical methods to <b>design, develop, manufacture, construct, commission, operate and maintain products, equipment, processes, systems and services</b>;</p> <p><b>C</b> Provide technical and commercial management;</p> <p><b>D</b> Demonstrate effective interpersonal skills;</p> <p><b>E</b> Demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.</p>	<p>UK-SPEC states that Chartered Engineers must be competent, by virtue of their initial formation and throughout their working life, to:</p> <p><b>A</b> Use a combination of general and specialist mechanical engineering knowledge and understanding to <b>optimise the application</b> of existing and emerging technology;</p> <p><b>B</b> Apply appropriate theoretical and practical methods to <b>the analysis and solution of engineering problems</b>;</p> <p><b>C</b> Provide technical and commercial leadership;</p> <p><b>D</b> Demonstrate effective interpersonal skills;</p> <p><b>E</b> Make a personal commitment to professional standards, recognising obligations to society, the profession and the environment.</p>

When completing an application form for Corporate Membership and Professional Registration all applicants are asked to state in which sector(s) of industry (known as **Industry Classifications**) they are mainly employed. Approximately 30 Industry Classifications are recognised in this context and, for each Classification, the Professional Review Committee appoints one or more Industrial Advisors. These Advisors are Members or Fellows of the Institution either working in the relevant field or with a thorough knowledge of the type of work involved and the professional engineering activities associated with their particular industrial sectors. If required, an Advisor

provides the Professional Review Committee with an assessment of the suitability or otherwise of an applicant in his or her sector.

Those involved in processing a Membership application will include some or all of the following:

- The applicant's sponsors
- The applicant's MPDS or other mentor
- IMechE Assessors (Professional Review Interviewers, Interviews Consultant, Industrial Advisor, Technical Report Assessor)
- IMechE Committee members
- IMechE Membership Department staff

UKSPEC requires that Assessors will undergo some form of training in areas such as understanding of competence-based assessment processes, procedures and standards, interviewing techniques and knowledge of UKSPEC requirements. However, many Assessors (particularly Professional Review Interviewers), while they may possess wide industrial, academic or managerial experience in one or more specialisms, will not necessarily be conversant with an applicant's own work area, and particularly those areas covered by competences A and B which relate specifically to his/her Industry Classification. Competence Units C, D and E are likely to be more generic but may still include activities and responsibilities peculiar to a particular Industry Classification or work area.

Part 2 of this document is intended to give industry-specific guidance to applicants, their sponsors and mentors and IMechE Assessors. It is divided into sections, one for each Industry Classification, comprising an overview of the mechanical engineering activities likely to be involved in that area, common requirements for election or transfer to the class of Member, detailed competence descriptors for Units A to E and some examples of appropriate Continuing Professional Development (CPD) activities. All sections of Part 2 have been approved by the Professional Review Committee.

At the time of writing, there are 32 Industry Classifications recognised by the Membership Applications

Department, as follows:

<b>Industry Classification</b>	<b>Code letter(s)</b>
Aerospace (E)	
Management Consultancy (M)	
Army (K)	
Manufacturing Industries (MI)	
Automobile Industry (V)	
Mining & Quarrying (X)	
Biomedical Engineering (BI)	
National Health Service (P)	
Building Services (Y2)	
Nuclear Engineering (H)	
Computers in Engineering & IT (I)	
Oil Industry & Offshore & Topside Engineering (T)	
Consultancy & Local Government (Y1)	
Power Generation - Non-Nuclear (F)	
Control & Instrumentation (CI)	
Process Industries - Chemicals, Foods, Beer & Tobacco (U)	
Defence Industry – Aerospace (O3)	
Railway Engineering (Q)	
Defence Industry – Land Systems (O1)	
Royal Air Force (G)	
Defence Industry - Sea Systems (O2)	
Royal Navy & Admiralty Civilians (C)	
Environmental Management Systems (A)	
Shipping & General Insurance (B)	

Gas Industry (W)  
Steel Production (ST)  
Health & Safety Departments & Government Inspectorates (J)  
Telecommunications (L)  
Machine Tools (MT)  
Universities & Higher Education Establishments (R) & (S)  
Maintenance Engineering (ME)  
Water Industry (N)

Appended to each section of Part 2 are Case Studies illustrating the actual progression of applications from candidates who were judged to have reached or exceeded the minimum competence levels prescribed by UKSPEC and were therefore elected to Member and awarded Professional Registration.

### **1.2 Fellowship applications**

As with Membership applications, the routes to Fellowship of the Institution are explained in the appropriate guidance notes for applicants and assessors. Applications for Fellowship are assessed against the 5 UKSPEC competences and the level of achievement should be significantly higher than for applications for Membership. Fellowship can be awarded against either the CEng or IEng competences.

### **1.3 Further Information**

Applicants seeking information about any of the Industry Competence Profiles should contact the Membership Applications Department at:

The Institution of Mechanical Engineers  
1 Birdcage Walk  
London  
SW1H 9JJ

Tel: 0845 226 9191

E-mail: [membership@imeche.org](mailto:membership@imeche.org)