Introducing Stages 1, 2 and 3 in the new membership processes
What has changed?

- the qualification process is now articulated across three stages

- the Technical Report has been replaced with a more equitable and flexible Individual Case Procedure (ICP)

- a check of Initial Professional Development (IPD) has been introduced for those who have not been through an IChemE Accredited Company Training Scheme (ACTS)

- changes have been made to the assessment of the Professional Review.
Why we made the changes

- to remove barriers to the assessment of knowledge and understanding for those without IChemE accredited qualifications
- to provide feedback on professional development to those who have not been through an IChemE Accredited Company Training Scheme
- to improve the processing of applications
- to ensure our processes are aligned with those of the Engineering Council.
The three qualification stages

Stage 1: Educational Base

Knowledge and understanding:
Accredited degree(s) fully meeting requirements or Individual Case Procedure (ICP)

Stage 2: Initial Professional Development

Experience and development of competencies:
Completion of an ACTS or IPD Assessment

Stage 3: Professional Review

Demonstration of competencies and commitment:
Competence and Commitment report and interview
Stage 1 - Educational base
## Educational base requirements for Chartered Chemical Engineer

### Qualification for Chartered Chemical Engineer

| Path 1          | IChemE Accredited M-Standard degree*  
|-----------------|----------------------------------------
|                 | e.g. MEng                              |
| Path 2          | IChemE Accredited B-Standard degree    
|                 | e.g. Bachelors*                        |
|                 | + IChemE Accredited F-Standard degree  
|                 | e.g. MSc*                             |
| Path 3          | Other qualifications                   
|                 | + Successful completion of ICP via     
|                 | academic qualifications and/or         
|                 | demonstrating required knowledge       
|                 | through technical experience          |

*before proceeding with an application confirm your Path with IChemE as local academic terminology may differ in each region.*
The Individual Case Procedure (ICP)

If you have IChemE-accredited qualifications: (Path 1 or Path 2 in the previous diagram)

- you automatically meet the Stage1 educational base requirement
- when you are ready, proceed directly to Stage 2 of the application process.

All other (ie Path 3) applicants will go through the Individual Case Procedure.
ICP is in three principal phases:
- Technical Biography (TB)
- Technical Report Questionnaire (TRQ)
- TRQ Interview (TRQI)
ICP Phase 1: Technical Biography (TB)

A summary, delivered through the TB form (see next), for initial assessment of:

a) your technical qualifications and

b) your understanding of chemical engineering gained through experience

- Outline only - maximum total 1000 words for technical experience
- Detailed enough to allow ICP Reviewers to identify areas where they need greater detail (via a Technical Report Questionnaire – see later)
Technical Biography form

Individual Case Procedure (ICP)
Technical Biography application form

<table>
<thead>
<tr>
<th>IChemE membership number</th>
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<table>
<thead>
<tr>
<th>Current membership grade</th>
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<tbody>
<tr>
<td>Affiliate Member</td>
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<tr>
<td>Associate Member</td>
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<tr>
<th>ICP level applying for</th>
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<tbody>
<tr>
<td>Associate Member (IEng)</td>
<td></td>
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<tr>
<td>Chartered Member (CEng)</td>
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</tbody>
</table>

Details of other professional membership/s

I have read and understood the data protection statement and the IChemE Privacy Policy attached with this form (please tick to confirm)

The information you provide on this form will help the assessors determine whether you meet the education base (knowledge and understanding requirements). If further evidence/details are required you will be asked to complete relevant sections of the Technical Report Questionnaire.

Verification of your work experience will be required. Your verifiers will need to complete the form provided and it must be returned with your application.

Course details
Fill in the relevant sections below and attach any official course transcripts. Make sure they include the title of the degree, dates taken, your name and the subjects taken, to verify the information given on this form. Any documentation that summarises the learning outcomes from the course (if available) is extremely helpful.

For PhD: Attach the thesis abstract/summary.
For EngD: Attach the thesis summary plus course module list and learning outcomes. Check the accreditation status of your course/s at www.ence.org.uk/courses

Technical experience
Please add a summary of examples of technical experience gained in the workplace to cover gaps from academic background/areas not covered by your degree. If two or more examples of experience occurred during employment at the same company, please list each example in a separate box.
Use the notes section at the end of this form if you need to provide any further information. Make sure to include the example number that the information relates to.
Technical Biography Form – Course details

To avoid unconscious bias by the assessors, we have limited the personal information required on this form.

ICP Number xxxx

<table>
<thead>
<tr>
<th>Degree type (eg BSc, MEng, PhD)</th>
<th>Title of programme</th>
<th>University</th>
<th>Start and end dates</th>
<th>Certificate attached</th>
<th>Transcript attached</th>
<th>IChemE accreditation (if applicable)</th>
<th>Details of other accreditation</th>
<th>Office use only</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Yes</td>
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</tbody>
</table>
### Technical Biography Form – Technical experience

To complete the cross-referencing in the table below you will need to refer to the Technical Biography Guidance document.

<table>
<thead>
<tr>
<th>Example</th>
<th>Employer and Job Title</th>
<th>Dates of experience (start-finish)</th>
<th>Examples of technical experience gained in the workplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td>Please add a brief summary (could use bullet points) of examples of technical experience gained in the workplace to cover gaps from academic background/areas not covered by your degree. Use the notes section at the end of this form if you need to add any relevant details.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cross-reference Technical Biography guidance numbers with experience covered (e.g., Part O, A1, A2, A3 or B)
Cross-referencing experience to TB Guidance

- Part O - Underpinning chemical and bio sciences
- Part A - Fundamentals of chemical engineering
  - at UK bachelor’s degree level
- Part B - Advanced chemical engineering
  - at master’s degree level
Technical Biography outcomes

Your TB will be reviewed by two or three ICP Reviewers. They will agree one of the outcomes below:

<table>
<thead>
<tr>
<th>Possible outcomes</th>
<th>Next steps for applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational Base met at TB</td>
<td>Completion of Initial Professional Development (IPD), Competence &amp; Commitment Report, and Professional Review Interview</td>
</tr>
<tr>
<td>2. Technical Report Questionnaire (TRQ) required</td>
<td>Prepare TRQ</td>
</tr>
<tr>
<td>3. Instructions not followed</td>
<td>Re-submit TB</td>
</tr>
<tr>
<td>4. Consider other options (grades, PEI)</td>
<td></td>
</tr>
</tbody>
</table>
Some typical TB outcomes

- **accredited bachelor’s chemical engineering**
  Part A satisfied
  Focused TRQ in Part B

- **bachelor’s non-chemical engineering**
  eg other engineering discipline
  Focused TRQ in areas of Part A and Part B

- **bachelor’s in science**
  eg chemistry, physics, mathematics, biochemistry
  TRQ in much of part A and Part B, excepting topics sufficiently covered in degree.

- **non-accredited bachelor’s plus accredited master’s in chemical engineering**
  Part B satisfied
  Focused TRQ in Part A for any missing elements

In all cases, well-evidenced experiential learning (eg ACTS), will be taken into account in assessing the TRQ requirement.
When the TB outcome is for TRQ

- most applicants will be able to satisfy the TRQ requirements straight away
  - you should complete and submit your TRQ as soon as possible

- a few applicants will be unable to meet the TRQ requirement immediately (for example, recent graduate with an accredited BEng(Hons))
  - you should get in touch with IChemE and, after gaining the necessary learning, submit your TRQ at a later date.
ICP Phase 2: Technical Report Questionnaire (TRQ)

- a more detailed view of your knowledge and understanding of chemical engineering
- aim is to demonstrate that your technical skills, knowledge and learning in the specified areas are equivalent to those from an accredited chemical engineering degree.
**Example section of the TRQ proforma**

ICP Number

Make sure to only complete the numbered sections mentioned in the letter you received after submitting your Technical Biography

### 1.5 Core chemical engineering – process safety

<table>
<thead>
<tr>
<th>Assessment criteria</th>
<th>Candidate self-assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5.1 Evidence of:</td>
<td>In the box below, provide details such as module descriptors (with learning outcomes and level) for qualifications and/or experiential understanding gained through work roles or projects. If necessary, IChemE request further details. Evidence of: ability to identify the principal hazard sources in chemical and related processes (including biological hazards). Knowledge of the principles of safety and loss prevention and their application for inherently safe design. Knowledge of the principles of risk assessment and safety management, and ability to apply techniques for the assessment and abatement of process and product hazards. Ability to apply systematic methods for identifying process hazards (e.g., HAZOP) and for assessing the range of consequences (e.g., impact on people, environment, reputation, financial). Note: the total word limit for section 1.5.1 is 150–250 words.</td>
</tr>
</tbody>
</table>

Note: the total word limit for section 1.5.1 is 150–250 words
TRQ assessors are looking for:

- concise, focused answers, within the indicated word limits
- you refer specifically to your own experience
  - “I calculated”, “I designed”, “I presented”
- how you acquired the required learning, such as:
  - reference to specific modules in your studies
  - examples of learning from your work in projects
  - reference to any specific training carried out, for example, technical, safety, design, etc.

- types of calculations, safety and environment related issues, approaches to problems with limited data etc.
Technical Report Questionnaire (TRQ) assessment

- your completed TRQ will be reviewed by three reviewers (probably not the ones who assessed your TB)
- possible outcomes are:
  - meets requirements – proceed to interview
  - does not meet requirements – you will get feedback. You will be allowed up to three attempts (initial submission plus two revisions).
ICP Phase 3: TRQ Interview (TRQI)

- this will be carried out by two of the three TRQ Reviewers
- the purpose is to:
  - confirm that the information in your TRQ is from your own experience
  - ask questions around the information provided to seek detail, clarification, confirmation as required
- the interview will be based on your TRQ, though slight divergence is possible if needed to help you.
- length will depend on the number of sections you had to complete.
The TRQI outcome

- the TRQ Interviewers will recommend their assessment to the ICP Panel.

- you will receive a letter informing you of the outcome:
  - Meets the Education Base requirement
    - formally included in your membership record
    - proceed to Membership Stage 2 once you are ready
  - If unsuccessful
    - Depending on your particular case, you will be informed of the options available to you.
Stage 2 - Initial Professional Development (IPD)
Initial Professional Development (IPD)

IPD is the period when an applicant develops the knowledge, understanding and skill, and professional attitude required for professional qualification. It can take place through structured graduate training schemes or it may be self-managed.
IPD assessment

IPD assessment is for those who have not completed an Accredited Company Training Scheme (ACTS). Non-ACTS applicants will need to fill in an IPD Assessment Form and satisfy assessors that each section of their experience is ‘adequate’.

Why check IPD?
- to comply with Engineering Council requirements
- checking IPD identifies any gaps in an applicant’s experience so that these can be rectified before proceeding to the C&C report: preventing a premature C&C application.

ACTS candidates who have completed an ACTS scheme:
- are exempt from this assessment and no fee is payable for Stage 2
- must submit an ACTS IPD completion form signed by the mentor and scheme manager to verify this.
IPD assessment (non-ACTS)

All candidates not exempt via ACTS submit:

- CV tailored to IPD requirements - a brief chronological listing of professional work experience and achievements (maximum two pages)
- IPD Assessment Form
  - Summary of training, same headings as C&C Report
  - Also has the same structure as the IChemE Framework for Effective Mentoring.
IPD assessment form

- entries in the IPD assessment form should be concise, preferably one main example and one to four brief bullet points per subsection
- someone familiar with the work of the applicant will need to verify the whole application form (e.g. their mentor)
- IPD will be assessed by two assessors and the outcome can be either 'adequate' or 'inadequate'
- when 'inadequate', candidates will receive detailed feedback from the assessors on all sections requiring revision
- when 'adequate', candidates might receive some optional feedback from the assessors, which will be useful for the development of the C&C report.

An adequate IPD does not guarantee a successful Professional Review
### IPD Submission Form

<table>
<thead>
<tr>
<th>Applicant's Name:</th>
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<tbody>
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</table>

#### Competence & Commitment requirements

Provide a concise summary of the work-based activities or the training courses you attended which are relevant to the development of this competency. At least one example should demonstrate skill and experience, others should be stated as bullet points. Normally a maximum of 5 in total.

<table>
<thead>
<tr>
<th>Date or duration of the activity</th>
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</table>

#### Section A

Evidence of applying your knowledge and understanding to practical situations

<table>
<thead>
<tr>
<th>A1: Applying appropriate theoretical and practical methods to identify or define a problem, opportunity or project</th>
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</table>

<table>
<thead>
<tr>
<th>A2: Combining ideas and contributions from different people and disciplines to arrive at appropriate engineering, technical or scientific solutions</th>
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</table>
## IPD Assessment Form

### Applicant's Name:
- Competence & Commitment requirements
  - Assessment (For use by the 1st assessor)
  - Assess as "adequate" or "inadequate"
  - Assessors' feedback to the applicant
  - Compulsory when inadequate
  - Optional when adequate

### Assessor's Name:
- Overall Assessment
- Sections to be revised
- Sections requiring revision for inadequate reports
- Do you think this report could be used as an example? If so, which sections?

### Sections

<table>
<thead>
<tr>
<th>Section A</th>
<th>Section B</th>
<th>Section C</th>
<th>Section D</th>
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</thead>
<tbody>
<tr>
<td>A1</td>
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<td>A4</td>
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<td>A5</td>
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</table>

### Overall Comments:

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[ICChemE logo]
Employment with multiple companies

- some applicants may have had jobs with more than one company, possibly including some with an ACTS
- on leaving an ACTS company they should submit a verified ACTS IPD form for all competencies they have developed while in that company; this can then be stored in their personal IChemE record
- the IPD Assessment Form then only needs to cover the remaining competencies
- likewise, if the new company has an ACTS, a second ACTS form can be completed to cover the remaining competencies
- the IPD Form can also cover experience gained before joining an ACTS company.
Next stage

- candidate can proceed immediately from IPD (or ACTS exemption) to C&C and Professional Review
- alternatively, they can opt to delay C&C submission until they feel able to demonstrate clearly that they have technical accountability and professional responsibility
- in both cases they must also have the required education base **before** submitting their C&C report.
Chartered application process

**Stage 1**
- IChemE Accredited Degree(s) fully meeting requirements
- Individual Case Procedure

**Stage 2**
- Initial Professional Development (IPD) Assessment
- Two IPD assessor
- IPD achieved automatically through ACTS

**Stage 3**
- Two professional reviewers
- C&C report
- Professional Review Interview (PRI)

**Decision**
- Professional Formation Forum (PFF) Election Panel
Stage 3 - Professional Review
Professional Review

- Final step in the application process to become Chartered. Comprises an assessment of documentary evidence and a Professional Review Interview (PRI).

- Candidate needs to submit an online application including:
  - Payment
  - Fully verified Competence and Commitment (C&C) Report
  - Referee reports
  - CV
  - Photo ID.
Professional Review

- each Professional Review takes three months, from submission to the communication of the decision

- the schedules for all grades of membership/registration will be published well in advance and both the candidates and the reviewers are required to adhere to the schedule.
Professional Review

- two professional reviewers conduct the assessment and interview in line with Engineering Council requirements. The Professional Review includes two components:
  - review of documentary evidence
  - interview
- the professional reviewers will be Engineering Council registrants, with at least one at the same level or above the grade/registration the candidate is applying for.
Professional Review process

Old

Assessor → Interviewers X2 → Registrar → VEP → Standards Panel

New

Professional Reviewers X2 → Standards Panel → VEP

Stage 3: Professional Review

Fail Safe: Both Professional Reviewers have to recommend plus the Standards Panel has to assess as safe and VEP has to endorse for the candidate to be successful
### Outcomes from C&C report assessment

#### Possible outcomes

<table>
<thead>
<tr>
<th>Satisfactory</th>
<th>Proceed to interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borderline</td>
<td>Probe at interview</td>
</tr>
<tr>
<td>Not satisfactory</td>
<td>Revision required</td>
</tr>
<tr>
<td>Upon revision “Not satisfactory”</td>
<td>Reviewed by Standards Panel</td>
</tr>
</tbody>
</table>
Professional Review Interview (PRI)

- assesses candidate’s professional formation (C&C report). The interview is usually conducted by the same pair of professional reviewers who carried out the C&C assessment.

- interview is typically done virtually or at the place of work of one of the professional reviewers.

- interview should last between 45-60 minutes.
Thank you for your time

Questions and answers