



CIWEM

The Chartered Institution of Water
and Environmental Management

Technical Report Option

Initial Guidance Notes

What is the Technical Report Option (TRO)?

Success in the TRO enables non-members of CIWEM who do not hold a recognised qualification to progress to membership and, if appropriate, registration with the Engineering Council (UK) or the Science Council. It also enables existing CIWEM members whose qualifications are not at the required MEng, BEng or Masters level, to register with the EC^{uk} or Science Council.

The TRO is thus applicable both for those who do not have a relevant degree-level qualification who wish to become a member of CIWEM and/or to register with EC^{uk} or Science Council and for those who have qualifications that are suitable for CIWEM membership but inappropriate for registration with the EC^{uk} or Science Council who wish to qualify as a Chartered/ Incorporated Engineer or Chartered Scientist. An example of the latter group might be an Honours graduate in Geography who has been working with a firm of consulting engineers for some years who now wishes to register with EC^{uk} as a Chartered Engineer.

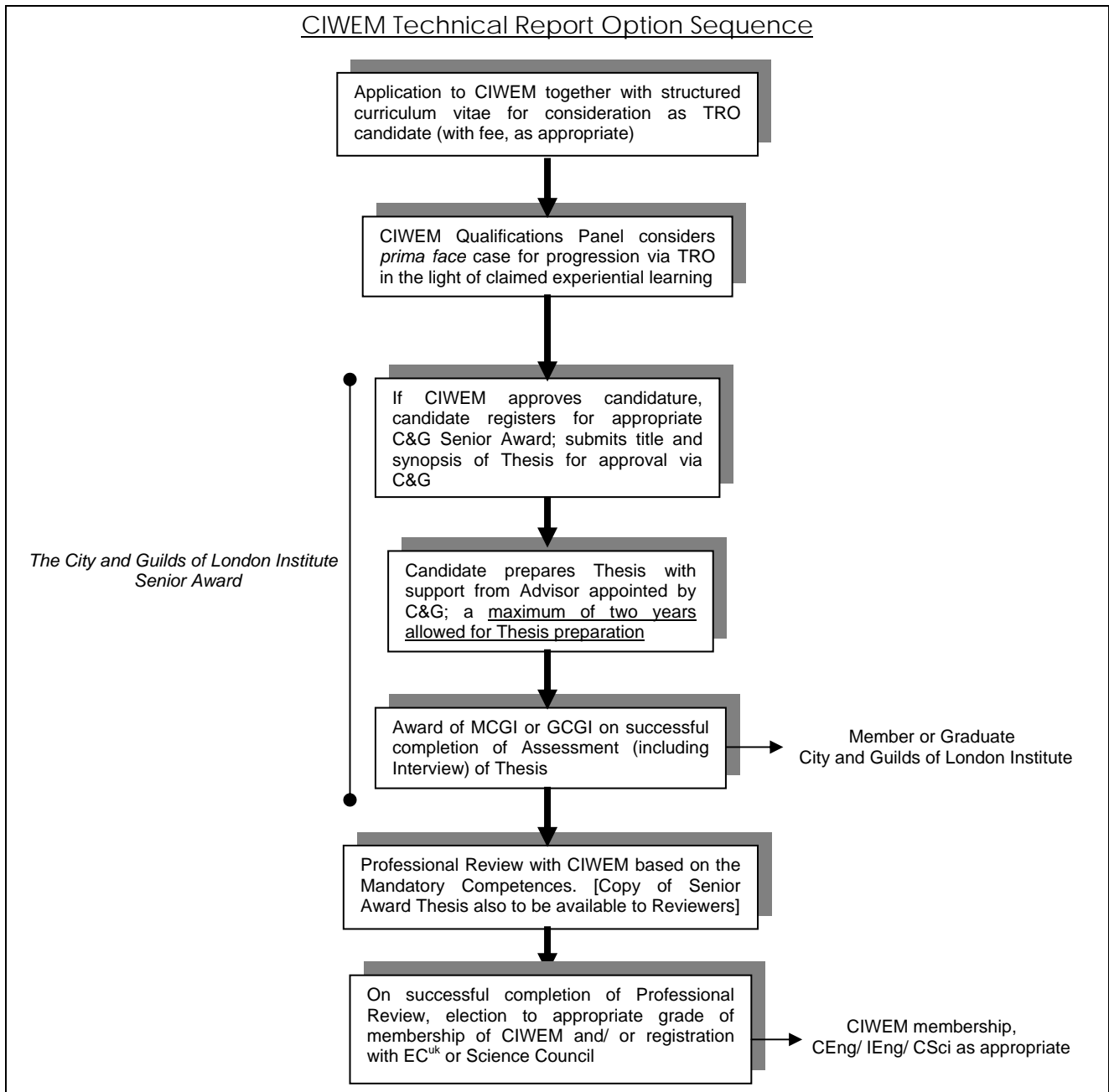
The TRO is based on learning gained in the workplace ('experiential learning') during a career, although any short courses or related qualifications may also be taken into consideration. Where an applicant does not appear to have sufficient experiential learning to embark on the TRO or where another route may be more appropriate, advice will be offered by CIWEM (**e.g. progress can also be made via EC^{uk} Examinations, Open University or MSc courses**).

To succeed in the TRO applicants will be expected to demonstrate, by the provision of evidence in the form of a Thesis (or 'Technical Report'), that they have a knowledge and understanding of engineering or scientific principles broadly equivalent to that of an accredited or approved degree/Masters degree. This is achieved via a specially designated pathway that incorporates the well-established City and Guilds Senior Awards. Thus candidates who succeed in the TRO will be entitled to use the designatory letters GCGI or MCGI, in addition to those accorded by CIWEM and the EC^{uk} or Science Council. To become an Associate member of CIWEM/IEng candidates follow the City and Guilds Graduate level (GCGI) pathway. For full Membership of CIWEM/CEng or CSci, they follow the Member level pathway (MCGI).

The City and Guilds of London Institute (C&G) was established in 1878 (Royal Charter 1900) to encourage education and training in, and for the workplace. It has close links with industry, government and training organizations, in order to identify the skills needed to support the UK economy. Once candidature has been approved by CIWEM, the TRO candidate will embark on the C&G Senior Award Thesis, guided by a specially appointed Advisor. Examination is by interview by an Assessment Panel, focusing on an evaluation of the Thesis as evidence of experiential learning and the award of either the GCGI or the MCGI will be made on successful completion of that Assessment. Having now demonstrated *appropriate knowledge and understanding of engineering or scientific principles*, the candidate will subsequently be required to demonstrate their *professional competence in water and environmental management*. That is achieved via the CIWEM Professional Review process for membership of the appropriate grade and/or registration with the EC^{uk} or Science Council.

The TRO is a challenging and demanding route that should not be embarked on lightly; potential applicants should note that the TRO route may take up to three years to complete. The sequence of events involved in the TRO is indicated schematically below.

CIWEM Technical Report Option Sequence



Is the TRO appropriate to my circumstances?

The TRO is appropriate for those without degree-level academic qualifications who wish to gain CIWEM professional membership and for those with degree-level qualifications that are not substantively engineering-based who wish to register with the EC^{uk}. It is also appropriate for those whose qualifications do not approach the required Masters level who wish to register with the Science Council as a Chartered Scientist.

TRO candidates have to demonstrate, by virtue of experiential learning, that they have a knowledge and understanding of the principles of engineering or science broadly equivalent to that of candidates who have completed their qualifications via degree awards. Thus to be acceptable, potential TRO candidates must have had significant opportunities for experiential learning during their careers to date and, in order to become a TRO candidate, CIWEM require a structured curriculum vitae (see below) that demonstrates the nature and duration of such experiential learning opportunities. For Membership/ CEng/ CSci progression, approaching 10 years of experiential learning may be sufficient, depending on the quality of the opportunities, while for Associate member and IEng some years less may well be appropriate.

The TRO is demanding in terms of time commitment, since the candidate has to demonstrate broadly equivalent knowledge and understanding to that gained in an appropriate full-time three or four year degree course. It is, of course, not possible for precise guidelines to be provided but the preparation of the Thesis and associated work could well take a minimum of hundreds of hours and, perhaps, over a thousand hours of input by the candidate. Such a commitment has important implications to both work and domestic arrangements. It should be borne in mind that the maximum duration for preparation of the Thesis is two years although, in some cases, completion could be sooner, depending on individual circumstances.

There is also a cost aspect in respect of the fee required by C&G for a Senior Award; presently that is £900 for the Member level and £800 for the Graduate level, paid directly to C&G. [That fee is payable only after approval of candidature by CIWEM, on registration with C&G].

What counts as experiential learning?

Experiential learning, in the context of the TRR, is learning that has been achieved via the work-place; to succeed, that learning should have provided a knowledge and understanding of engineering or scientific principles that broadly equate to that of BEng, MEng or Masters degree level (as appropriate).

Example: an Honours graduate in Geography in Membership of CIWEM, seeking registration with the EC^{uk}. Here a period spent in site investigation with appropriate office work, involving preliminary foundation design activities under supervision, could well be experiential learning in geotechnical engineering.

Example: a non-graduate seeking Associate membership. Here a period spent in commissioning waste-water treatment plant could well be experiential learning in process engineering.

TRO candidates who aspire to Membership/CEng/CSci progression generally should have at least approaching ten years experiential learning, covering a range of engineering/science topics. For the Membership/CEng/CSci level, about four topics should be covered in-depth by such experiential learning e.g. a TRO candidate seeking CEng registration might cover - geotechnical engineering, structures, materials and surveying. For Associate membership/ IEng some years less might be required and only two topics covered in-depth by experiential learning. All candidates will be expected to demonstrate an appropriate knowledge of computer applications.

Any short courses and related qualifications will count - provided they are relevant in furthering the candidate's knowledge and understanding of the principles of engineering or science.

It is important to appreciate that the TRO candidate is required to focus on demonstrating knowledge and understanding of the principles of engineering or science and should NOT be distracted, when preparing the Thesis, by excessive attention to aspects that involve management or supervision of tasks.

During the preparation of the Thesis, the experiential learning already gained will be consolidated and extended with deficient areas addressed and strengths enhanced.

How do I become a TRO candidate?

The first stage is to submit to CIWEM the structured curriculum vitae that demonstrates your potential to progress as a TRO candidate together with the application form and the appropriate CIWEM fee. That structured curriculum vitae should provide details of all your experiential learning, covering no more than two sides of A4 and be in the format of the example below.

<u>Duration</u>	<u>Appointment/ Employer</u>	<u>Experience</u>	<u>Experiential Learning Topic</u>
.....			
March 1996 - May 1999	Construction Services Ltd	Laboratory testing of engineering materials, including soils, in Africa	Materials, Geotechnical Engineering
June 1999 - May 2002	Site Investigation Division FGR Consultants Ltd	Desk study, site supervision, preliminary design calculations	Geotechnical Engineering
June 2002 - March 2005	Flood Defence Division FGR Consultants Ltd	Hydraulic modelling, site supervision	Hydraulics, Computing
.....			

Example extract: Curriculum Vitae format for TRO application

The structured curriculum vitae should be sent, together with the application form, supporting documentation and the appropriate fee to CIWEM at 15 John Street, London WC1N 2EB. It will be reviewed by the Qualifications Panel and, if considered to provide a *prima facie* case for proceeding with the TRR, your candidature will be approved. You will then be provided with additional information and able to register with C&G for the appropriate Senior Award. After registration with C&G, a suitable synopsis (submitted to C&G) will be drawn-up and you will comply with all of the Senior Award requirements until satisfactory completion of Graduate or Member status with C&G is achieved. (See page 2 above).

Please note that ONLY those candidates who have their applications agreed via CIWEM will be deemed to be following an approved TRO- candidates without CIWEM agreement will NOT be considered as having followed such an approved route and will not be considered by CIWEM as TRO candidates.

CIWEM will respond to your application once it has been assessed by the Qualifications Panel and approved by one of the Professional Boards; if your TRO candidature is approved, you can then immediately register with C&G and progress with your Senior Award without delay.