

# Formal Training Scheme to Associate Membership

## Electrical Engineering

### Model Training Guide

#### 1 Model Training Guide (MTG)

The Model Training Guide is, as the name suggests, a guide to Companies on the practical experiences considered relevant in the formal training of potential Technologists.

#### 2 Training Programme (TP)

The Training Programme is the plan prepared by a Company which is designed to meet the experiences listed in the MTG. This 'plan' is presented for approval by HKIE as a part of the Assessment/Reassessment procedures.

The TP must cover the experiences necessary to ensure that Trainees can meet the objectives set out in the **Training Record-of-Objectives**.

#### 3 Training Period - Nominally 2 years

The **length** of the **training** is based on **meeting the objectives** and **not** determined by **time**. The times shown below are therefore indicators only, the time that a normal trainee would take to meet the relevant objectives. The training period could and often be longer or in some cases shorter than the nominal training period.

#### 4 Training Aim

It is important to note that the Training Scheme is designed to be the **fast track** by which a graduate can obtain the status of Associate Member of the HKIE

#### 5. Continuing Professional Development (CPD)

An implicit part of the Training Scheme for Associate Members is related to CPD which should be an integral and relevant part of the development of the trainee

#### 6 Training Stages

- (I) Introduction to the Company and to the Training Scheme
- (II) Professional and General

- (III) Electrical Engineering Practices: Fundamentals, Design, Site Construction/Installation, Control, Operation and Maintenance
- (IV) Engineering Administration & Management
- (V) Direct Objective Training

## 7 Training Programme Content

### (I) Introduction (Suggest one week in total)

#### Information about the company:

- (a) Organisation, history, mission, vision & values,
- (b) Products and/or services, markets and competitors,
- (c) Management structure and functions,
- (d) Communication systems,
- (e) Locations and layout of the facilities,
- (f) Quality, safety & health, environmental management systems and welfare,
- (g) Joint consultation arrangement if any.

#### Information about training programmes, prospects & career development:

- (a) Specialist skills,
- (b) Work of related disciplines,
- (c) Supervisory management techniques,
- (d) Sources of guidance,
- (e) Company policies,
- (f) Codes of conduct,
- (g) Resource and references,
- (h) Training and development plan.

### (II) Professional & General (Throughout the training period)

- (a) HKIE Activities
  - (i) History, role and organisation
  - (ii) Development links with HKIE
- (b) Professionalism
- (c) General Personal Development
- (d) Personal Qualities/Demonstrating
- (e) Occupational Safety & Health (OS&H)
- (f) Environment/Quality
- (g) Communication
  - (i) Orally

- (ii) Written
  - (h) Human Resources
  - (i) Leadership & Supervisory management
  - (j) Own Organisation
  - (k) Technological Development/Business Operation
- (III) Electrical Engineering Practices: Design, Construction/Installation, Control, Operation and Maintenance** (12 months in total)
- (a) Workshop training including knowledge in use of hand and machine tools and measuring, controlling and testing instruments (1 month min.) C
  - (b) Design work which could include research, investigation, planning or development of electrical systems, electrical plants/electronic components, electrical products and equipment in accordance with requirements and specifications (2 months min.) C
  - (c) Manufacturing processes of the company if appropriate, or construction/installation methods and practices (2 months min.) C
  - (d) Inspection, testing and commissioning methods and practices in accordance with Standards and Specifications (1 month min.) C
  - (e) Operations, repair and maintenance, control and operational procedures, maintenance practices, fault analysis/ diagnostic techniques, safety systems, system and plant reliability (1 month min.) C
  - (f) Project management including cost management, programme management, quality management and environmental and safety management (2 months min.) C
- (IV) Engineering Administration & Management Aspects** (6 months total)
- (a) Interpretation or preparation of requirements and specifications incorporating sketches and drawings, methods of construction and materials to be used (1 month min.) C
  - (b) Tendering procedures, tender appraisal and contract administration D
  - (c) Estimating labour, material, installation and transport costs and cost control (1 month min.) C
  - (d) Project scheduling and work management (1 month min.) C
  - (e) Preparation of reports and manuals for procedures of installation, operation and maintenance, and codes of practice (1 month min.) C
  - (f) Technical sales and contract negotiation D
  - (g) Communication skills in verbal and written Chinese and English. D
  - (h) Budgeting system D

- (i) General administration knowledge including financial management, human resources study, social awareness, marketing technique etc. (1 month min.) C

**(V) Direct Objective Training (6 months total)**

This is training in any one or more of the activities outlined in (III) or (IV), which leads to an initial appointment as a technologist. It should also aim to develop skills and knowledge needed to make an effective start. Special courses dealing with the particular technologies having a bearing on future work may be necessary during training. Where appropriate, computer applications should also be considered.

Specific project(s) or tasks should be assigned to the trainee according to the work nature of the trainee in this period and the emphasis should be on the applications of the essential knowledge and skills acquired in the previous phases of the training programme. The trainee is expected to report the progress at scheduled intervals.

Regular reviews with the trainee should also be arranged together with the supervisor(s) to the trainee so as to ensure the progress to be in line with the project and task objective(s). The trainee shall be required to submit the final project or task report before the completion of the training programme so that an overall review on the performance of the trainee may be conducted.

**N.B.**

- (a) This guide should be read in conjunction with the Formal Training Scheme to Associate Membership Aims, Procedures and Requirements Routes to Associate Membership (M4) Information booklet
- (b) To meet the Institution's training requirements, trainees must be under the supervision of an Engineering Supervisor and have followed an approved formal training scheme. Items marked 'C' are considered to be core training modules and those marked 'D' are considered to be desirable.
- (c) During their training, each trainee is required to maintain a Training Log Book, a Training Record of Objectives and a CPD Log Book.