

Health and Safety Executive OC 480/3

Field Operations Division

To

Agriculture, Factory and Quarries Inspectors

FCG Specialist Inspectors (Elec)

TRAINING COURSES FOR ELECTRICAL CRAFTSMEN AND TECHNICIANS

CITY & GUILD OF LONDON INSTITUTE

This OC, which is based on THSD Minute TD/1B/INF/7/1991, informs inspectors of training courses run by the City & Guild of London Institute (CGI) for electrical craftsmen and technicians.

Background

1 In 1988, CGI started to revise and update the syllabus and content of Course 236 Electrical Installation Competencies Parts I and II. This revision was prompted by the needs of the electrical contracting industry and the National Council of Vocational Qualifications. During the revision period, the Electricity (Factories Act) Special Regulations 1908 & 1944 were repealed and the Electricity at Work Regulations 1989 took effect, the latter emphasising the dangers of live working and the need for stringent precautions when work is necessary on or near live conductors.

HSE participation

2 Following consultation with the Education NIG, a local initiative was undertaken with the assistance of Mr A Daw THSD A1 and a series of meetings were

initiated ~~THSD A1~~ initiated a series of meetings at which CGI and technical college lecturers were represented. By this means the syllabus of Course 236, the relevant Tutors' Guide and Candidate Record Books were revised.

Results

3 Significant amendments were made to the following CGI publications:

(1) 236 Electrical Installation Competencies and Electrical Installation Work Parts I and II.

Note: The 'C' Course, leading to Licentiatehip of City & Guilds, is optional after the CGI Electrical Certificate has been awarded for completion of Parts I and II.

(2) Centre Assessment Candidates Record Books - Electrical Installation Competencies Parts I and II.

(3) The Tutors' Guide, to which Appendices A and B have been added. These are included as Appendices 1 and 2 to this OC.

(4) CGI have also agreed that the Course 236 Tutors' Guide appendices will be drawn to the attention of subject officers and tutors responsible for the 2 courses named below:

(1) 232 Electrical & Electronic Engineering Competencies;

(2) 224 Electronics Servicing Parts I and II.

4 These courses are not currently under revision but, in their future presentation, CGI seek to promote students' awareness of safety needs and safe working practices. The appendices prepared for the Course 236 Tutors' Guide would not be viewed as prescriptive but may be appropriate to parts of these courses at the Tutors' discretion.

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ASI headings

Courses: electricity: training (extra-departmental).

APPENDIX 1

(para 3(3))

(TUTORS' GUIDE - APPENDIX A)

236 ELECTRICAL INSTALLATION COMPETENCIES

SAFE WORKING PRACTICE

1. During the preparation of this scheme, City and Guilds consulted the Health and Safety Executive (HSE).
2. In addition to safety aspects which are explicit in the syllabuses, HSE advised that awareness of the matters noted below should be brought to the attention of course tutors, who should make suitable references to them, where appropriate, during the course.
 - 2.1 The advice in IEC (International Electrotechnical Commission) Publications 479-1, regarding the effect of current on the human body, its magnitude and duration, and the limits of voltages and currents which are unlikely to be dangerous in normal circumstances.
 - 2.2 The effect of fault energy released after earth fault or short circuit, often caused by dangerous manual intervention using unsuitable test probes or tools and capable of causing severe burns.
 - 2.3 The effect of environment (temperature, weather, water, chemicals, flammable gases, vapours or dusts) on the selection, installation and performance of electrical equipment.
 - 2.4 Ownership boundaries on electrical systems, the property of Electricity Supply Companies (ESCs), cut-outs, fuses, locked or sealed equipment, need for ESC staff to isolate meters and meter tails.
 - 2.5 Understanding of the purpose of statutory acts or regulations and non-statutory regulations, codes of practice.
 - 2.6 Aspects of safe working practice to be emphasised are:
 - a) Isolation procedures for dead working (see Appendix A of BS 6423:1983). The Electricity at Work Regulations 1989 call for dead working when practicable.
 - b) The construction and use of proprietary voltage detectors (see HSE Guidance Note GS38).

- c) The need for adequate permanent or temporary screening and safe diagnostic test equipment when working near live conductors at dangerous voltages.
- d) Working directly on bare live conductors is a practice which is rarely necessary. Such work must be subject to particular procedures founded on need, experience, training, use of special tools, equipment (eg electricity supply industry cable jointing or live line work) and should not be necessary in the normal course of an installation or maintenance electrician's work.
- e) The normal simple sequence for repair after equipment failure is: identify fault by logical observation and measurements - make dead - rectify fault or replace parts - replace enclosures/barriers -re-energise for functional test.

NOTE: An index of all HSE publications including Guidance Notes on electrical subjects (the HSE Publications in Series List, regularly updated) may be obtained free of charge from Health and Safety Executive offices, addresses of which are given in telephone directories.

APPENDIX 2

(para 3(3))

(TUTORS' GUIDE - APPENDIX B)

SAFETY NOTES - CENTRE ASSESSMENT 1 (236-7-11)

1. The essence of this centre assessment lies in promoting an awareness of safe practice and its importance in all aspects of the electrician's everyday working environment.
2. The observance of safe practice is relevant to every competence of this scheme and it is important that these be highlighted as and when they occur. The object is to instil in every individual an automatic awareness of all the considerations for safety that should accompany whatever they do.
3. All those engaged in the delivery of the 236 competences scheme (either in part or whole) should be aware of their legal responsibilities. These include the requirements of the Health and Safety at Work Act, 1974, and the Electricity at Work Regulations, 1989, particularly in respect of workshop and laboratory activities.
4. Centres offering the 236 scheme are therefore advised to provide copies of relevant legislation at the centre. They may also wish to supplement such provision by means of staff development, in order that compliance with regulations may be achieved.
5. It is important that candidates be aware of safety legislation relevant to their working environment. They should be able to state the general obligations of employers and employees with regard to the Health and Safety at Work Act, 1974 and the Electricity at Work Regulations, 1989. They should also be familiar with the TUC Guide to Health and Safety at Work.

6. In assessing candidates as competent in this centre assessment, assessors are affirming the following:

- consistent observation of safe practice, cleanliness and tidiness, as applied to all competence areas or tasks.
- competent application of emergency procedures, as specified.

7. The practical tasks (objectives) for this centre assessment are as listed in the syllabus pamphlet.

8. For Task 1, candidates must carry out resuscitation only by recognised techniques. **ELECTRICAL EQUIPMENT MUST NOT BE CONNECTED TO ANY SUPPLY.**

9. For Task 2, the assessment is to be carried out as candidates demonstrate selection and correct use of the appropriate fire fighting equipment. **CANDIDATES MUST NOT DISCHARGE FIRE EXTINGUISHERS UNLESS OR UNTIL THEY ARE SO INSTRUCTED.** In preparing candidates for this task assessment, centres may find it helpful to seek assistance from the local fire brigade.

10. Candidates should react correctly to a mock emergency situation and should correctly demonstrate the emergency call procedure.

(*See also Appendix A - for HSE advice on safe working practice.)