

Contractor Cooperative Training Scheme (CCTS) – E & M Work Trades in Building/Civil Engineering Main Contracts (Mandatory and Voluntary)

Framework Document

**By CIC
1 September 2016**

<u>Rev</u>	<u>Date of Issue</u>	<u>Summary of Changes</u>
First issue	22 May 2013	Comment by DEVB
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此文件關於承建商合作培訓計劃-機電工種，適用於在建築/土木工程合約(強制性及自願性)。如有需要索取此文件的中文版本，請致電 2100 9238 或以電郵 alicechoi@hkcic.org 與 Alice Choi 聯絡。

This Disclaimer has been translated into Chinese. If there is any inconsistency or ambiguity between the English version and the Chinese version, the English version shall prevail

Table of Content

1. Purpose
2. Terminology
3. Background
4. Introduction of the Scheme
5. Requirements for General Contractor (B&C)
6. Requirements for Main Contractor (E&M)
7. Requirements for First-tier E & M Sub-contractor
8. Roles of the CIC
9. Application Procedure
10. Monitoring Procedure
11. Payment of Subsidy
12. Termination of Agreement
13. Bankruptcy and Receivership
14. Probity Clause
15. Data Collection Declaration

- | | |
|---------|---|
| Annex A | Application Form |
| Annex B | Approval Procedure |
| Annex C | Monitoring Procedure |
| Annex D | Payment Procedure |
| Annex E | Guideline to assess Subsidy + Table 1 |
| Annex F | Sample of Log Book |
| Annex G | Reference Training Syllabus of CIC |
| Annex H | List of Trade entitled to Subsidy under CCTS (E&M Trades) |

1. Purpose

The purpose of this document is to set out the procedures of the Construction Industry Council (CIC) in handling the Contractor Cooperative Training Scheme (CCTS) for electrical and mechanical (E&M) trades in building / civil engineering main contracts (Mandatory and Voluntary) in which the General Contractor is a building/civil engineering (B&C) contractor.

2. Terminology

In this document, the following words and expressions shall have the meaning hereby assigned to them except when the context otherwise requires:-

a.	Agreement	Training Agreement made between CIC and the Main Contractor (E&M) comprising this Framework Document, the Application Form submitted by the Main Contractor (E&M) and approved by the CIC and the Terms and Conditions annexed to the Application Form.
b.	Approved Training Plan	Training Proposal or training Plan submitted by the Main Contractor (E&M) and approved by the CIC for the training prescribed in the CCTS
c.	Approved Project	The CCTS application of the Main Contractor (E&M) approved by the CIC
d.	CIC	Construction Industry Council
e.	CITB	Construction Industry Training Board
f.	General Contractor (B&C)	The General Contractor of the Contract (i.e. the Main Contract) is the contractor who has signed the Contract Agreement (i.e. the building / civil engineering main contracts) and has a direct contractual relationship with the Employer.
g.	Main Contractor (E&M)	The Main Contractor (E&M) is a specialist contractor included in the List of Approved Suppliers of materials and Specialist Contractors for Public Works (the Specialist List) and has a sub-contract agreement with the General Contractor (B&C) of the Contract approved by the Employer required in the Main Contract to undertake the construction of the E & M parts of the Main Contract.
h.	First-tier E & M Subcontractor	The First-tier E & M Sub-contractor is a specialist contractor that has a valid on-going or soon-to start sub-contract with the Main Contractor (E&M).

3. Background

- 3.1 Since its establishment, the CIC has been providing a wide range of training programmes for different construction trades. However, training of workers for some trades may require heavy or massive plant and equipment and extensive site areas, which should be more efficiently provided by contractor on site. In order to cope with the projected electrical and mechanical (E&M) labour demand in construction works, the CIC has collaborated with contractors to launch the CCTS to train workers of E&M trades, which contractors hire trainees first and then train them on-site with CIC's subsidies. It facilitates trainees to acquire early on-site experience.
- 3.2 Under CCTS for E & M trades, the Main Contractor (E&M) or the First-tier E&M Sub-contractor will recruit and train his/her workers on site by a trainer under the Main Contract approved by the CIC. The CIC will provide training syllabus, procedural and administration templates, training-end test/assessment if appropriate, target passing rate and ratio of trainer to trainee for reference. The Main Contractor (E&M) or the First-tier E&M Sub-contractor will provide training to the workers on site under the supervision of the Main Contractor (E&M) and periodic checks by the CIC. The workers, after completing the course, shall sit for relevant intermediate trade tests conducted by the CIC, or if such trade tests not available, a certificate test as determined and conducted by the CIC. The Main Contractor (E&M) and/or the First-tier E & M Sub-contractor will receive appropriate training allowance from the CIC through the Main Contractor (E&M) for training the E & M workers under the CCTS.
- 3.3 In addition to the benefit of site training suiting the nature of the trades concerned, the CCTS can also increase the training capacity of the industry substantially within a short time. Furthermore, it can capitalise on the trainees' productivity and provide a real on-site environment to gear the graduates up for higher productivity to meet the actual site requirements all to the overall benefit of the construction industry.

4. Introduction of the Scheme

- 4.1 A training allowance is payable for trades approved in the CCTS for E&M trades as listed in Annex H. Other trades for training may be considered upon application to the CIC.
- 4.2 The CIC will assist the Main Contractor (E&M) where appropriate to train workers in their construction sites. The Main Contractor (E&M) and/or the First-tier E & M Sub-contractor who wish to join the Scheme must possess at least an on-going sub-contract about to commence that is appropriate for the training purpose. The training location may switch from the Site of the Main Contract to the site of another main contract of the same General Contractor provided –
- it is necessary or desirable for the completion of the training;
 - the Main Contractor (E&M) and the First-tier E&M Sub-contractor providing the training are as in the Approved Training Plan; or otherwise as approved by the CIC; and
 - a submission is made to the CIC at least 14 days prior to the proposed change; and
 - approval is obtained from the CIC for the change.

- 4.3 The Main Contractor (E&M) and/or the First-tier E & M Sub-contractor will recruit suitable trainees, provide a detailed training proposal (the Proposal) to the CIC through the Main Contractor (E&M). For mandatory CCTS, the Main Contractor (E&M) should submit the written consent of the General Contractor (B&C). The training proposal will include a training syllabus, training period, passing rate of intermediate trade test or certificate test, rate of attendance, training equipments and tools, venue of training, qualification and experience of the competent trainers, ratio of trainer to trainees, expected training allowance of the trainers, trainees and training supervisors. The Main Contractor (E&M) can propose alternative syllabus of training but subject to the approval of CIC. Standard training syllabus for E & M trades under CCTS is appended in Annex G for reference. Other trades can be provided by the CIC upon request.
- 4.4 The Main Contractor (E&M) shall submit his proposed supervision plan together with the experience of his proposed training supervisor to the CIC for approval. A training supervisor must possess at least 5 years of site supervision experience. The CIC will provide appropriate tutorial to the supervisor where necessary.
- 4.5 The trainer proposed by the Main Contractor (E&M) or the First-tier E & M Sub-contractor shall possess the relevant trade test certificate or shall be a CIC registered skilled workers appropriate to the training, plus 5 years post qualification working experience in that trade. Trainers with the relevant working experience but without relevant trade test certificate may also be considered by the CIC. The proposed trainers must be approved by the CIC before training commences. The CIC will provide appropriate tutorial to the trainers where necessary.
- 4.6 The ratio of trainers to trainees should be in line with the nature of training proposal, site conditions, safety and environmental aspects. All should be considered and discussed with the CIC.
- 4.7 The Main Contractor (E&M) and/or the First-tier E & M Sub-contractor shall carry out the training in accordance with the Proposal.
- 4.8 While the requirements may vary from trades to trades and depending on the specific CCTS, the general requirements of the assessment of training subsidy are given in Annex E for reference.
- 4.9 The approval of the training places is based on the principle of first come first serve. The CIC is not liable for the additional costs incurred by the applicants due to the rejection of their application.

5. Requirements for General Contractor (B&C)

- 5.1 The General Contractor (B&C) of the main contract must have at least a construction contract, either in progress or ready to commence. As stipulated in the Main Contract, there is a mandatory requirement to provide training of a minimum number of E & M CCTS trainees.

- 5.2 If the training is mandatorily required, the General Contractor (B&C) of the contract is solely required to give written consent to the Main Contractor (E&M) to participate in the CCTS and providing the approved training at the Site of the Main Contract. The General Contractor (B&C) shall keep records of training submitted by the Main Contractor (E&M) and report the same to the Employer or his/her representative as required. There is no relationship between the CIC and the General Contractor (B&C) under the CCTS for E & M trades.
- 5.3 The General Contractor (B&C) of the contract will not be required to give written consent to the Main Contractor (E&M) if the Main Contractor (E&M) intends to apply the training voluntarily.
- 5.4 The General Contractor (B&C) shall register or, as the case may be, ensure that the Main Contractor (E&M) registers with the CIC the names of the CCTS trainees, contract number and title of the contract under which the CCTS trainees work. Upon request, the General Contractor (B&C) shall submit and ensure that the Main Contractor (E&M) submits a certified true copy of the written employment contract of each CCTS trainees to the CIC for inspection. No CCTS trainee shall be registered more than once at any one time.

6. Requirements for the Main Contractor (E&M)

- 6.1 The Main Contractor (E&M) must have at least a construction sub-contract with the General Contractor (B&C), either in progress or ready to commence. The Main Contractor (E&M) may change the training location from the site of the contract to another site managed by him provided that it is necessary or desirable for the completion of training. The nature of construction, in whole or in part, must be appropriate to the type of workers to be trained under the Proposal.
- 6.2 The Main Contractor (E&M) should comply with the Minimum Wage Ordinance in employing the trainees. The training allowance can be utilised to meet the minimum wages requirements under the Minimum Wage Ordinance for the days the trainee attends training.
- 6.3 The Main Contractor (E&M) shall submit all particulars of the trainees including personal data, education background and past experience etc to the CIC for approval. Different trade will have different entry requirement. Information can be found in Annex G. The Main Contractor (E&M) must ensure that the collection, transfer and use all such particulars of trainees to the CIC are in compliance with the Personal Data (Privacy) Ordinance. All trainees must be the employee of either the Main Contractor (E&M) or the First-tier E & M Sub-contractor and that the employment contract shall comply with the employment laws of The Hong Kong Special Administrative Region (HKSAR). To ensure better use of the training capacity, skilled workers or semi-skilled workers of the relevant trades are not eligible to participate in the CCTS. The trainees must be endorsed by the CIC for the training and subsidy before the commencement of training.

- 6.4 All insurance including Contractor's All Risk, Third Party Liability, Employee Compensation and any other insurance necessary for the carrying out of the training Proposal/Plan must be provided by the General Contractor (B&C) of the Contractor. In case of the First-tier E & M Sub-contractor, the Main Contractor (E&M) should also provide the insurance to cover the training. Such insurances shall cover the trainees and trainers whether they are employed by the Main Contractor (E&M) and the First-tier E & M Sub-contractor.
- 6.5 The Main Contractor (E&M) shall submit all particulars of the trainers and training supervisor including all personal data, education background, qualification and past experience of training to the CIC. The Main Contractor (E&M) shall ensure that the collection, transfer and use of such particulars to the CIC and via the CIC to the Government are in compliance with the Personal Data (Privacy) Ordinance (PDPO). Should there be any change of these personnel, proper replacement shall be arranged and prior approval shall be obtained from the CIC before the replacement.
- 6.6 The CIC will provide trainer subsidy in accordance with a rate approved by CITB for a particular trade. This allowance may be proportionately reduced if the number of trainees is less than the approved number. For example, if the requirement is to train 4 trainees per trainer but only 2 trainees could be recruited, then the trainer subsidy would be halved. However, the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor may provide more trainers as he thinks fit at his own cost.
- 6.7 The Main Contractor (E&M) shall supervise, monitor and inspect the training in accordance with the approved training plan during the course of training such that the trainees can enhance their skills during the training period and pass the certificate test or intermediate trade test conducted by the CIC at the end of training. A minimum pass rate of a particular trade is shown in Annex G for reference. (Remarks: Pass rate is defined as the number of trainees passing the relevant intermediate trade test (ITT) or the certificate test over the number of trainees enrolled in the Scheme. This includes the number of trainees who failed to attend the relevant ITT or certificate test.)
- 6.8 The Main Contractor (E&M) should check the First-tier E & M Sub-contractor's training record, check and sign the trainee's training log book provided by the CIC (a sample of the log book is in Annex F) and monitor the training progress of training. The CIC will countersign the training log book during site inspection.
- 6.9 The Main Contractor (E&M) shall monitor and keep record of the ratio of trainer to trainee during the course of training. Should there be a change of site condition such as safety and environment during the course of training, the Main Contractor (E&M) shall inform the CIC and propose a change of ratio to accommodate the change of site condition as soon as possible whenever it arises. Notwithstanding the above, the Main Contractor (E&M) shall maintain at all time a safe environmental condition to the training. The subsidy to the trainers cannot be adjusted if there is a change of the ratio due to reason outside the control of the Main Contractor (E&M).

- 6.10 Free site access shall be provided or maintained by the General Contractor (B&C) and/or the Main Contractor (E&M) for the CIC to carry out site inspections during the course of training including but not limited to access to the site of the Contract. If irregularities are spotted, the CIC will impose more frequent site visits and inspections to ensure the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor are meeting the training requirements.
- 6.11 Upon approval of an application, the Main Contractor (E&M) shall commence the training within 12 months from the date the CIC notifies it that its application to participate in the CCTS has been approved. Approved training places will be forfeited if the Main Contractor (E&M) does not do so within such time period. If the Main Contractor (E&M) has failed to comply with this policy, the application will be deregistered from the approval list of the CIC, and that the Approved Training Proposal/Plan and the subsidy will be cancelled. Submission of a new application is required if the Main Contractor (E&M) wishes to pursue the training plan.

7. Requirements for First-tier E & M Sub-contractor

- 7.1 The First-tier E & M Sub-contractor is allowed to join the CCTS provided that he has a valid on-going or soon-to start sub-contract with the Main Contractor (E&M) suitable for the purpose of training.
- 7.2 The First-tier E & M Sub-contractor shall recruit suitable workers as the trainees in the scheme. To ensure better use of the training capacity, skilled workers or semi-skilled workers of the relevant trades are not eligible to participate in the CCTS. All detailed particulars of the trainees shall be submitted to the CIC for approval via the Main Contractor (E&M).
- 7.3 The First-tier E & M Sub-contractor shall prepare a proposal of training and submit to the CIC through the Main Contractor (E&M). The proposal will include the course syllabus, qualification and experience of competent trainers, equipments and tools for the training, period of training, venue and expected training subsidy of trainers and training allowance of trainees if applicable. Training packages for CCTS (E&M trades) are attached in Annex G for reference.
- 7.4 Under the supervision of the Main Contractor (E&M), the First-tier E & M Sub-contractor shall conduct the training in accordance with the Approved Training Plan such that the trainees can enhance their skill during the training period and pass the intermediate trade test or the certificate test conducted by the CIC.
- 7.5 During the course of training, the First-tier E & M Sub-contractor shall provide and submit training records to the Main Contractor (E&M) for inspection and endorsement. The Main Contractor (E&M) shall then submit it to the CIC for checking and approval. The CIC shall provide a log book to each trainee to record his/her daily training activity and the enhanced skills that he/she has learned. This log book shall be signed by the trainee and endorsed by his/her trainer on a daily basis. The Main Contractor (E&M) or his designated supervisor shall endorse the log book weekly. The CIC will countersign the

training log book during site inspection. Notwithstanding the above, the First-tier E & M Sub-contractor shall keep his own site record on the trainees' attendance, training content and training activities for the proper monitoring and review.

- 7.6 The ratio of trainer to trainee is essential to the training plan. Factors such as the site condition, safety and environment shall be considered. The ratio that has been approved by CITB is as shown in the training packages in Annex G. The First-tier E & M Sub-contractor has the responsibility to monitor this requirement and shall report to the CIC via the Main Contractor (E&M) should there be a change of the ratio. Notwithstanding this, the First-tier E & M Sub-contractor shall maintain at all times a safe environment for the training.
- 7.7 At the end of training, the trainees are required to take the intermediate trade test or the certificate test conducted by the CIC free of charge. Trainees are only permitted to take another certificate test or intermediate trade test free of charge if he/she fails the first one. Thereafter, the normal fees will be charged for any subsequent trade test or relevant certificate test. No certificate will be issued by the CIC to the trainees fails in the intermediate trade test or the certificate test. The Main Contractor (E&M) and the First-tier E & M Sub-contractor shall provide further training if necessary to assist the failed trainee to re-test his/her skill.

8. Roles of The CIC

- 8.1 The CIC will assist the implementation of the CCTS for E & M trades and provide standard training documentation and administration templates if available to the Main Contractor (E&M) and First-tier E & M Sub-contractor for reference.
- 8.2 The CIC will examine the training records, progress and supervision reports. The CIC will conduct periodic site visits and inspections during training period to ensure that the training is properly conducted. If irregularities are spotted, the CIC will impose more frequent site visits and inspections to ensure the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor are meeting the training requirements.
- 8.3 The CIC will provide safety training (e.g. Green Card and Silver Card) to the trainees in the CCTS at no cost upon the request of the Main Contractor (E&M).
- 8.4 The CIC will pay the approved subsidy to the Main Contractor (E&M) on a monthly basis upon the receipt of monthly reimbursement application by the Main Contractor (E&M) in accordance with the Schedule of Subsidy approved by CITB.
- 8.5 The CIC shall assess the skill level of trainees achieved at the completion of training by conducting the intermediate trade test or the certificate test.
- 8.6 The CIC shall not be held liable for any contractual disputes (contractual or otherwise), settlement, arbitration, mediation or litigation for matters arising

between the Main Contractor (E&M) and any of the Main Contractor (E&M)'s directors, officers, employees, sub-contractors, agents or other personnel.

- 8.7 The CIC shall not be held liable for any matters arising from the employment of the trainees and trainers by the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor including but not limited to arrears of wages, personal injury compensation and Mandatory Provident Fund.
- 8.8 The CIC shall not be held liable for any loss, damages, costs, expenses and liabilities arising from any conflict of interest due to the contractual relationship between the Main Contractor (E&M) and the First-tier E & M Sub-contractor in the CCTS project.
- 8.9 The CIC may assist Main Contractor (E&M) and/or the First-tier E & M Sub-contractor to recruit CCTS trainees where appropriate.
- 8.10 The CIC will consider and approve where appropriate experienced skilled workers recommended by Main Contractor (E&M) and/or the First-tier E & M Sub-contractor to be CCTS Trainer for relevant CCTS Trades. Appropriate tutorial will be provided where necessary.

9. Application Procedure

- 9.1 The Main Contractor (E&M) shall complete the Application Form in Annex A and together with all supporting document submit to the CIC for checking and endorsement.
- 9.2 The First-tier E & M Sub-contractor will submit its application via the Main Contractor (E&M) and will not be considered an applicant itself. The Main Contractor (E&M) therefore bears the responsibility to ensure that the information submitted by the First-tier E & M Sub-contractor is complete and correct and that the First-tier E & M Sub-contractor acts in accordance with the agreement.
- 9.3 The Main Contractor (E&M) shall commence the training in accordance with the Approved Training Plan to meet his own contract requirements.
- 9.4 The application procedure is as shown in a flow chart form in Annex B.
- 9.5 When full documentation has been submitted to the CIC's satisfaction, the CIC will use its best endeavour to process the approval as soon as possible. The normal period to seek for approval will normally not less than 21 working days. The CIC will issue a letter notifying the Main Contractor (E&M) that its application has been approved. The terms and conditions set out in the Agreement will become legally binding on the Main Contractor (E&M) and the CIC upon the CIC's issue of such letter. The Main Contractor (E&M) is therefore advised to carefully read the documents comprising the Agreement (as defined on page 3 of this Framework Document) before signing and submitting its application.

10. Monitoring Procedure

- 10.1 When the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor commences the training programme, the trainees shall start to record their training activities in the log book daily. Trainees are required to sign their names in the log book daily.
- 10.2 The trainer shall be required to check the log books, sign and endorse the content daily.
- 10.3 The Main Contractor (E&M) or his designated supervisor shall be required to check the log book and countersign the log book weekly.
- 10.4 The CIC will inspect and check the training log book during site visit. If irregularities are spotted, the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor shall rectify the irregularities immediately.
- 10.5 The whole process of monitoring the training progress is as shown in a flow chart in Annex C.

11. Payment of Subsidy

- 11.1 The subsidy to be reimbursed is in accordance with a Schedule of Subsidy which is assessed by reference to the Guidelines of Subsidy in Annex E. There shall be no entitlement to subsidy after the training period in the Approved Training Plan. Upon the approval of the Main Contractor (E&M)'s Training Proposal, the CIC shall provide an approved schedule of subsidy to the Main Contractor (E&M).
- 11.2 The Main Contractor (E&M) shall submit a monthly subsidy reimbursement application stating the amount of subsidy to be reimbursed for the training carried out in the preceding training month. The submission shall be backed up with the training record, progress report and the attendance record signed and endorsed for the purpose of providing information of attendance, training progress, subsidy payment receipt of trainees, training content of the preceding training month for the CIC to check and certify.
- 11.3 When the aggregate sum that has been paid to the Main Contractor (E&M) reaches the total sum in the training, this aggregate sum is deemed to be final and no more subsidies shall be reimbursed even when the training has not yet completed. However, this does not release the training liability of the Main Contractor (E&M) and the First-tier E & M Sub-contractor and they shall have maintained the continuity of training programme for the trainees up to completion. and take measures to ensure that the number of trainees accepted in the approved training proposal to pass the certificate test or intermediate trade test.

- 11.4 The Main Contractor (E&M) and/or the First-tier E & M Sub-contractor shall try their best to support the trainees to pass the intermediate trade test or the certificate test conducted by the CIC.
- 11.5 Without prejudice to paragraph 11.1, subsidy already reimbursed to the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor for a trainee who has dropped out from the training program will not need to be refunded by the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor to the CIC. However, the trainee shall not be eligible to join any other training programme under the CCTS for one year unless his departure is under special circumstances (e.g. illness) approved by the CIC. The CIC has set up a computer program to check the eligibility of the trainee. Subsidy paid to trainers and supervisors need not be refunded.
- 11.6 The Main Contractor (E&M) shall provide an account for reimbursement training subsidy which is separate from other payment to the First-tier E & M Sub-contractor and shall not deduct the subsidy due to the settlement of contractual matters between them. The CIC may conduct random checks on the receipts of subsidy by the sub-contractors concerned.
- 11.7 The Main Contractor (E&M) shall transfer the relevant part of training subsidy to the First-tier E & M Sub-contractor within 7 working days upon receipt of the subsidy from the CIC. All record of payment must be submitted to the CIC for checking and record.
- 11.8 A flow chart of the payment procedure is as shown in Annex D.
- 11.9 The subsidy can be regarded as the whole or the part of the salaries paid to the trainees (workers) and the Main Contractor (E&M) or the First-tier E & M Sub-contractor should pay the salaries to the trainees in compliance with the statutory requirements of minimum wages.
- 11.10 Other subsidies can be regarded as the allowance for the Main Contractor (E&M) and/or the First tier E & M Sub-contractor to provide trainer and supervising staff for the training.

12. Termination of Agreement

- 12.1 The CIC has the absolute right to terminate the Approved Project in the event that the Main Contractor (E&M) and/or the First-tier E & M Sub-contractor are in breach of the terms of the Agreement. All allowances and subsidies shall cease to be reimbursable to the Main Contractor (E&M) from the date of the breach and any allowance or subsidy that have been reimbursed after the date of the breach shall be refunded in full by the Main Contractor (E&M) to the CIC. The Main Contractor (E&M) agrees to procure the sum to be refunded by the First-tier E & M Sub-contractor, if applicable, to the CIC.
- 12.2 The Main Contractor (E&M) shall not terminate the Agreement before its completion without prior approval of the CIC in writing.

13. Bankruptcy or Receivership

The CIC may at any time by notice in writing summarily terminate the training without entitling the Main Contractor (E&M) to compensation if the Main Contractor (E&M) and/or the First-tier Sub-contractor shall at any time become bankrupt/insolvent, undergoes or will undergo receivership or liquidation, or if a petition for liquidation, bankruptcy or receivership (whether voluntary or involuntary, save for the purpose of reconstruction or amalgamation) is filed against the Main Contractor (E&M) and/or the First-tier Sub-contractor, but without prejudice to any right, action or remedy which shall have accrued or shall accrue thereafter to the CIC. Accordingly, any training carried out under the Approved Project shall stop immediately and no allowance or subsidy shall be reimbursable to the Main Contractor (E&M) as from the date of termination.

14. Probity Clause

The Main Contractor (E&M) shall prohibit his/her employees, agents, First-tier E & M Sub-contractors, trainers and trainees (whether they are employees of the Main Contractor (E&M) or the First-tier E & M Sub-contractor) who are involved in the CCTS from offering, soliciting or accepting any advantage as defined in the Prevention of Bribery Ordinance (Cap 201), when conducting business in connection with the CCTS.

15. Data Collection Declaration

- 15.1 The Main Contractor (E&M) shall ensure that the collection, use and transfer of trainee and trainer personal data to the CIC and via the CIC to the relevant authorities and/or organisations which subsidize the CCTS are in compliance with the Personal Data (Privacy Ordinance (PDPO)(Cap 486).
- 15.2 In order to comply with the PDPO, the Main Contractor (E&M) must accept and agree to provide a Personal Information Collection Statement (PICS) to each of the trainees and trainers in compliance with the following:
 - a. To inform the trainer/trainee that his/her information will be provided to the CIC (including any personal data as defined in the PDPO), will be used for purposes related to the activities of the CIC (including the transfer of any personal data by the CIC to the Development Bureau for reimbursement of the trainee's wages) or any other purposes in connection with the CCTS for E&M trades.
 - b. To give the trainee/trainer an option to agree or disagree that the CIC may keep him/her informed of the CIC activities and industry development which may be of his/her interest, the CIC may use his/her personal data, including name, phone number, correspondence and email addresses, to update him/her in relation to training courses, trade testing, registration, events and other aspects of its work and the construction industry.

- c. To inform the trainee/trainer that he/she is also entitled to request access to correct any errors in his/her personal data. If he/she wishes to do so, he/she can write to the CIC at 15/F, Allied Kajima Building, 138 Gloucester Road, Wanchai, Hong Kong.
- 15.3 The Main Contractor (E&M) who has collected the personal data from the trainee must obtain the trainee's written consent regarding the above and provide a copy of such consent to the CIC.
- 15.4 The Main Contractor (E&M) shall indemnify the CIC in the event of any breach of the PDPO or any breach of the above undertaking.



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Contractor Cooperative Training Scheme
- E & M Trades in Building/Civil Engineering
Main Contract (Mandatory and Voluntary)
Application Form

Section 1: General Contractor (B&C)

A. General Contractor (B&C) Information

Main Contractor: _____

Project period : _____
MM/YY – MM/YY

Project type : _____

Site location : _____

General Contractor's in-charge /Title : _____ Tel. no. : _____

Signed by General Contractor:
(For Mandatory CCTS only) _____

Date _____

Section 2: Main Contractor (E&M)

A. Main Contractor (E&M) Information

Main Contractor
(E&M) : _____

Project period : _____
MM/YY – MM/YY

Project type : _____

Site location : _____

Project-in-charge /Title : _____ Tel. no.: _____

B. Main Contractor (E&M)'s Supervision Plan

Work Trade : _____

Training period : _____
MM/YY – MM/YY

Name of
Supervisor In-charge : _____
(Please attach CV)

Supervision Plan mode and content : (Refer to attached supervision plan outline submitted by the Applicant)

The Plan should include checking their sub-contractor's training records, monitor the training progress of the approved Proposal on monthly basis, and providing monthly progress report

C. Main Contractor (E&M)'s Monitoring Plan for release of subsidies

Monitoring Plan for release of subsidies mode and content: (Refer to attached Monitoring Plan for release of subsidies outline submitted by the Applicant)

The Plan should include (i) release the training subsidy to First-tier E & M Sub-contractors within one week upon receipt of the subsidy; [this will not be applicable if payment is on a reimbursement basis] (ii) provide separated accounts for training subsidy from other payments of First-tier E & M Sub-contractors; and (iii) First-tier E & M Sub-contractors should effect prompt payment of salaries and training allowances to the trainees (workers) who are their employees in timely manner and according to the approved Proposal and their employment contracts.

Assessment Form
(for official use)

(Authorized assessor
completes according to the
guidelines)

D. Assessment Item

1. Main Contractor (E&M)'s contract

Main Contractor (E&M) should provide relevant contract information which includes work nature, work progress and project dates, etc

2. Main Contractor (E&M)'s Supervision Plan

Main Contractor (E&M) should provide supervision plan outline, which includes checking their First-tier E&M Sub-contractors' training records, monitoring the training progress of the approved Proposal on monthly basis, and providing monthly progress report

E. Personal Data Collection Statement

All particulars of the trainees and trainers including their personal data, employment contract, education background and past experience submitted by the Main Contractor (E&M) to the CIC and the subsequent transfer of such information by the CIC to the relevant authorities and/or organisations which subsidize the CCTS are in compliance with the Personal Data (Privacy) Ordinance (Cap 486). This liability is imposed on the Main Contractor (E&M). A declaration is made by the Main Contractor (E&M) to the CIC that the personal data collected, transferred and used are compliant with the Personal Data (Privacy) Ordinance (Cap 486).

F. Declaration

I/We hereby confirm that I/we will comply with the terms and conditions set out in the CCTS for E&M trades Framework Document, this Application Form and as annexed as Annex 1 to this Application Form and confirm that all information provided by us are correct.

Signed by Main Contractor
(E&M) :

Date

Section 3: First-tier E & M Sub-contractor

A. Sub-contractor Information

First-tier E & M
Sub-contractor : _____

Work Trade
working period: _____
MM/YY – MM/YY

Work Trade
type : _____

Site location : _____

First-tier E & M
Sub-contractor's
In-charge/ Title : _____ Tel. no. : _____

B. Training Information

Work Trade : _____

Training period : _____
MM/YY – MM/YY

Name of instructor : _____ (Please
attach CV)

Facility required : _____

Name of trainee : _____

Training mode and content : (Refer to attached training outline submitted
by the Applicant)

C. Assessment Item

Assessment Form

(for official use)

(Authorized assessor completes according to the guidelines)

1. First-tier E & M Sub-contractor's contract

First-tier E & M Sub-contractor should provide relevant sub-contract information which includes work nature, work progress and project dates, etc

2. First-tier E & M Sub-contractor's Work Trade

First-tier E & M Sub-contractor should provide trade name and explain why such type of workers needs to be trained.

3. First-tier E & M Sub-contractor's Training facilities and venue

First-tier E & M Sub-contractor should list out the quantities of facilities and venue for the training.

4. No. of First-tier E & M Sub-contractor's trainee

First-tier E & M Sub-contractor should provide no. of workers and trainees of the relevant trade required at the site.

5. First-tier E & M Sub-contractor's ratio of Trainers to Trainees

First-tier E & M Sub-contractor should provide the ratio of Trainers to Trainees

6. First-tier E & M Sub-contractor's Subsidy

First-tier E & M Sub-contractor should list out the details of the expected subsidies which include salaries of trainer, expenses of construction plants and tools, expenses of training venues and classrooms, trainees' subsidy and administrative fee, etc.

7. Experience of First-tier E & M Sub-contractor's trainer

First-tier E & M Sub-contractor should provide documentary proof of the trainer's experience (related working experience, position held and training experience, etc.)

8. First-tier E & M Sub-contractor's Training period and course content

First-tier E & M Sub-contractor should provide course outline and training period, attendance rate, passing rate; construction plants and tools, and venues etc.

9. Skills assessment at completion of training

All trainees in the Contractor Cooperative Training Scheme should be required to pass the intermediate trade test conducted by the CIC. If such intermediate trade test is not available, the trainees should be required to pass the certificate test as determined and conducted by the CIC.

Signed by F-tier E & M Sub-contractor : _____

Date : _____

10. Comments of assessor (for official use) :

Recommendation :

1. Approve / Not approve the application of training subsidy.

2. Recommended amount of subsidy:

Signature : _____
Assessor

Date : _____

Annex 1 - Terms and Conditions

1 Defined Terms and Interpretation

- (a) **Agreement** means the training agreement made between the CIC and the Applicant comprising the Scheme's Framework Document, the Application Form submitted by the Applicant and approved by the CIC and the Terms and Conditions annexed to the Application Form.
- (b) **Applicant** mean any Main Contractor (E&M) that submit an application to participate in the Scheme launched by the CIC.
- (c) **Approved Project** means the Scheme application of the Applicant approved by the CIC.
- (d) **Approved Training Plan** means the training proposal or training plan submitted by the Applicant (on behalf of the First-tier E & M Sub-contractor, if applicable) and approved by the CIC for the training prescribed in the Scheme.
- (e) **CIC** means the Construction Industry Council.
- (f) **CITB** means the Construction Industry Training Board.
- (g) **Commencement Date** means the date of issue stated on the Notification of Approval issued by the CIC.
- (h) **Framework Document** means the policy document governing the Scheme which can be accessed on the CIC's website (<http://www.hkcic.org>).
- (i) **General Contractor (B&C)** means the contractor with a direct contractual relationship with the employer of the construction contract.
- (j) **Main Contractor (E&M)** means a specialist contractor included in the List of Approved Suppliers of materials and Specialist Contractors for Public Works (the Specialist List) and has a sub-contract agreement with the General Contractor (B&C) of the Contract approved by the Employer required in the Main Contract to undertake the construction of the E & M parts of the Main Contract.
- (k) **Notification of Approval** means the letter issued by the CIC to the successful Applicant notifying it that its application to participate in the Scheme has been approved.
- (l) **Participant** means trainers and trainees recruited by the Applicant to participate in the Scheme.
- (m) **Scheme** means the cooperative training scheme launched by the CIC to which this Application Form relates to.
- (n) **Sub-contractor** means the First-tier E & M Sub-contractor who entered into a sub-contract [(whether a valid on-going contract or a soon-to-start contract)] with the Main Contractor (E&M) to undertake all or part of the construction contract.
- (o) **Interpretation**

In the terms and conditions of the Agreement, except where the context otherwise requires:

- (i) words importing the plural shall include the singular and vice versa,
- (ii) words importing any gender shall include the other genders, and
- (iii) headings are for ease of reference only and do not affect interpretation.

No principles of construction shall apply to the disadvantage of a party because that party was responsible for the preparation of the terms and conditions of the Agreement or any part of it.

2 Applicant's Obligations

- 2.1 The Applicant shall comply with all the provisions of the Agreement. The CIC reserves the right to revise the provisions of the Agreement from time to time without prior notice.
- 2.2 The Applicant bears the responsibility of the involvement of the Sub-contractors in the Scheme and must therefore ensure the information provided by the Sub-contractors is complete and correct and that the Sub-contractors act in accordance with the Agreement.
- 2.3 Upon approval of an application, the Applicant shall commence training for the approved trainees within 12 months from the Commencement Date. Approved training places will be forfeited if the Applicant does not do so within such time period. If the Applicant wishes to continue participating in the Scheme, a new application must be submitted.
- 2.4 The Applicant shall complete the Approved Training Plan once commenced. Should there be any circumstances that hinder the Applicant from doing so, the Applicant shall notify the CIC in writing immediately.

3 Training Subsidies

- 3.1 The CIC may withhold payment of the training subsidies or any part of it if in the sole opinion of the CIC:
 - (a) The Applicant has failed or is, in the opinion of the CIC, likely to fail to execute the Approved Projects; and
 - (b) Documents submitted by the Applicant in relation to the monthly subsidy reimbursement application do not meet the standards or requirements specified in the Framework Document.
- 3.2 The Applicant shall apply the subsidies solely towards the Approved Projects in accordance with the Framework Document.

4 Insurance

- 4.1 The Applicant shall ensure that it and its Sub-contractors, agents or other personnel responsible to conduct training under the Scheme have adequate insurance coverage for its training, operational and business risks including contractors' all risk insurance, third party liability, employees' compensation insurance, directors and officers

liability insurance and any other insurance necessary or ordinarily taken for the execution of the trainings under the Scheme. Such insurance shall cover the Participants whether they are employed by the Applicant or its Sub-contractors.

5 Bankruptcy or Receivership

5.1 The CIC may at any time by notice in writing summarily terminate the training without entitling the Applicant to the compensation if the Applicant and / or its Sub-contractor shall at any time become bankrupt/insolvent, undergoes or will undergo receivership or liquidation, or if a petition for liquidation, bankruptcy or receivership (whether voluntary or involuntary, save for the purpose of reconstruction or amalgamation) is filed against the Applicant and / or its Sub-contractor, but without prejudice to any right, action or remedy which shall have accrued or shall accrue thereafter to the CIC. Accordingly, any training carried out under the Approved Project shall stop immediately and no allowance or subsidy shall be reimbursable to the Applicant as from the date of termination.

6 Probity

6.1 The Applicant shall prohibit its employees, agents, Sub-contractors and Participants (whether they are employees of the Applicant or its Sub-contractors) who are involved in the Scheme from offering, soliciting or accepting any advantage as defined in the Prevention of Bribery Ordinance (Cap 201) when conducting business in connection with the Scheme.

7 Personal Data Collection

7.1 The Applicant shall ensure the collection, handling and use of the personal data of its Participants or other personnel associated with the execution of the Scheme is in accordance with the provisions of the Personal Data (Privacy) Ordinance (Cap 486). This includes the transfer of the personal data to the CIC and through the CIC to the relevant authorities and/or organisations which subsidize the Scheme.

7.2 The Applicant shall ensure to provide a written Personal Information Collection Statement as required by the Framework Document to each of the Participants and provide the CIC with a copy of the signed Personal Information Collection Statement obtained from each Participant.

7.3 Participants have the right to request access to or correction of personal data. Written requests should be addressed to the CIC in accordance with the data access procedures stipulated on the CIC website <http://www.hkcic.org>.

8 Indemnity

8.1 The Applicant shall indemnify the CIC against any and all losses,

claims, demands, damages, costs, expenses and liabilities suffered or incurred by the CIC arising out of or in connection with the breach of any of the terms and conditions of the Agreement.

9 Liability of CIC

9.1 The CIC shall not be held liable for any disputes (contractual or otherwise), settlement, arbitration, mediation or litigation for matters arising between the Applicant and any of the Applicant's directors, officers, employees, sub-contractors, agents or other personnel.

9.2 The CIC shall not be held liable for any matters arising from the employment of the Participants by the Applicant and/or its Sub-contractor including but not limited to arrears of wages, personal injury compensation and Mandatory Provident Fund.

10 Termination of Approved Project

10.1 The CIC has the absolute right to terminate the Approved Project, cease to pay any and all allowances and subsidies in the event that the Applicant and/or the Sub-contractors are in breach of the terms stipulated in the Agreement.

10.2 No indemnity claims or claims of any other kind may be made against the CIC by the Applicant and/or Sub-contractors.

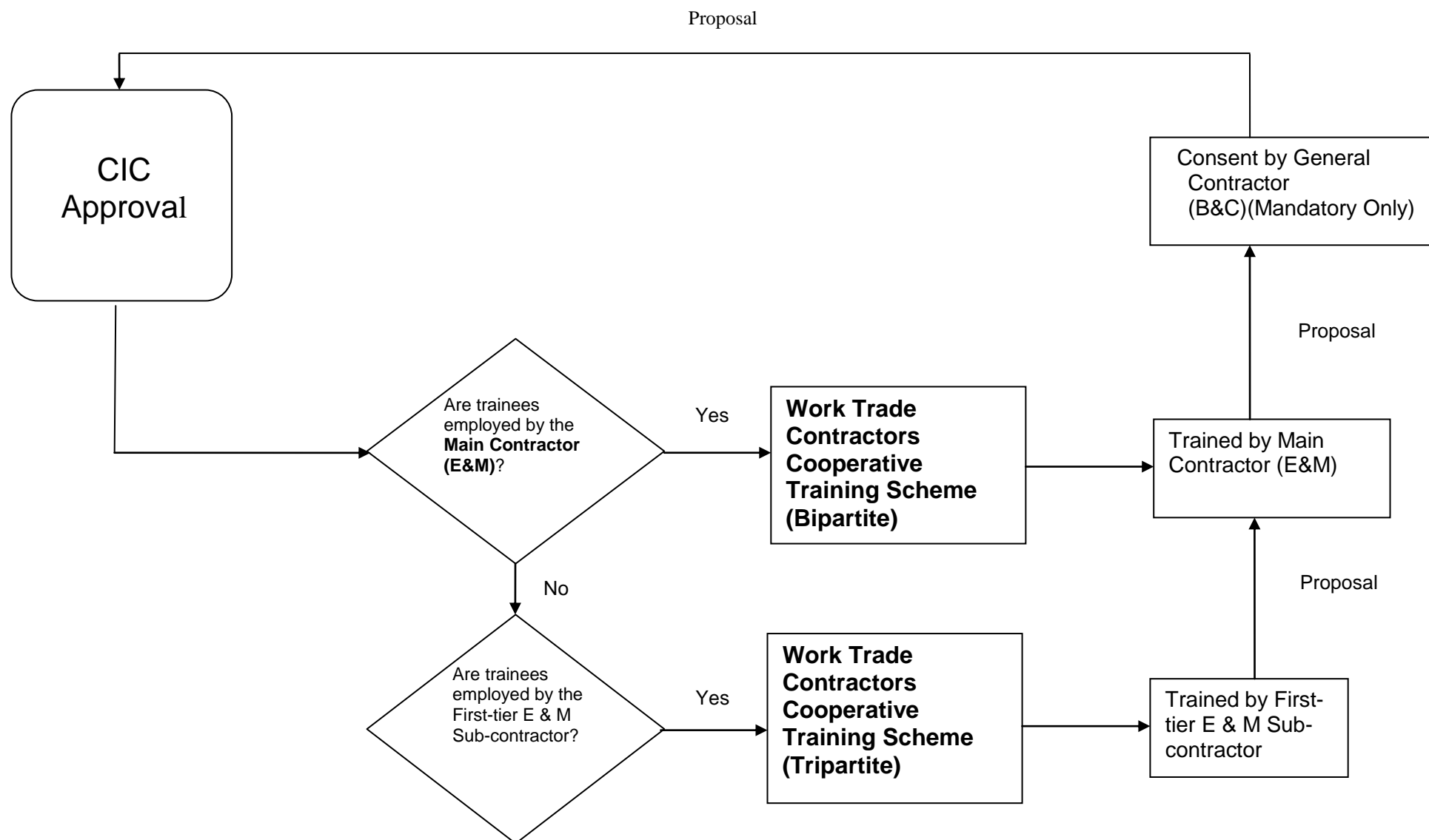
11 Settlement of Disputes

11.1 In relation to any dispute or difference arising out of or in connection with the Scheme, the parties shall first try to resolve the dispute or difference amicably by good faith negotiations between senior representatives of the related parties. In the event that the dispute or difference remains unresolved 28 days after the commencement of such negotiations, the dispute shall then be referred to mediation at the Hong Kong International Arbitration Centre (HKIAC) and in accordance with its Mediation Rules. If the mediation is abandoned by the mediator or is otherwise concluded without the dispute or difference being resolved, then such dispute or difference shall be referred to and determined by arbitration at the HKIAC in accordance with the HKIAC's Domestic Arbitration Rules and the Arbitration Ordinance (Cap 609) or any statutory modification thereof for the time being in force and any such reference shall be deemed to be a submission to arbitration within the meaning of such Ordinance. Any such reference to arbitration shall be made within 90 days of either the refusal to mediate or the failure of the mediation.

12 Governing Laws and Jurisdiction

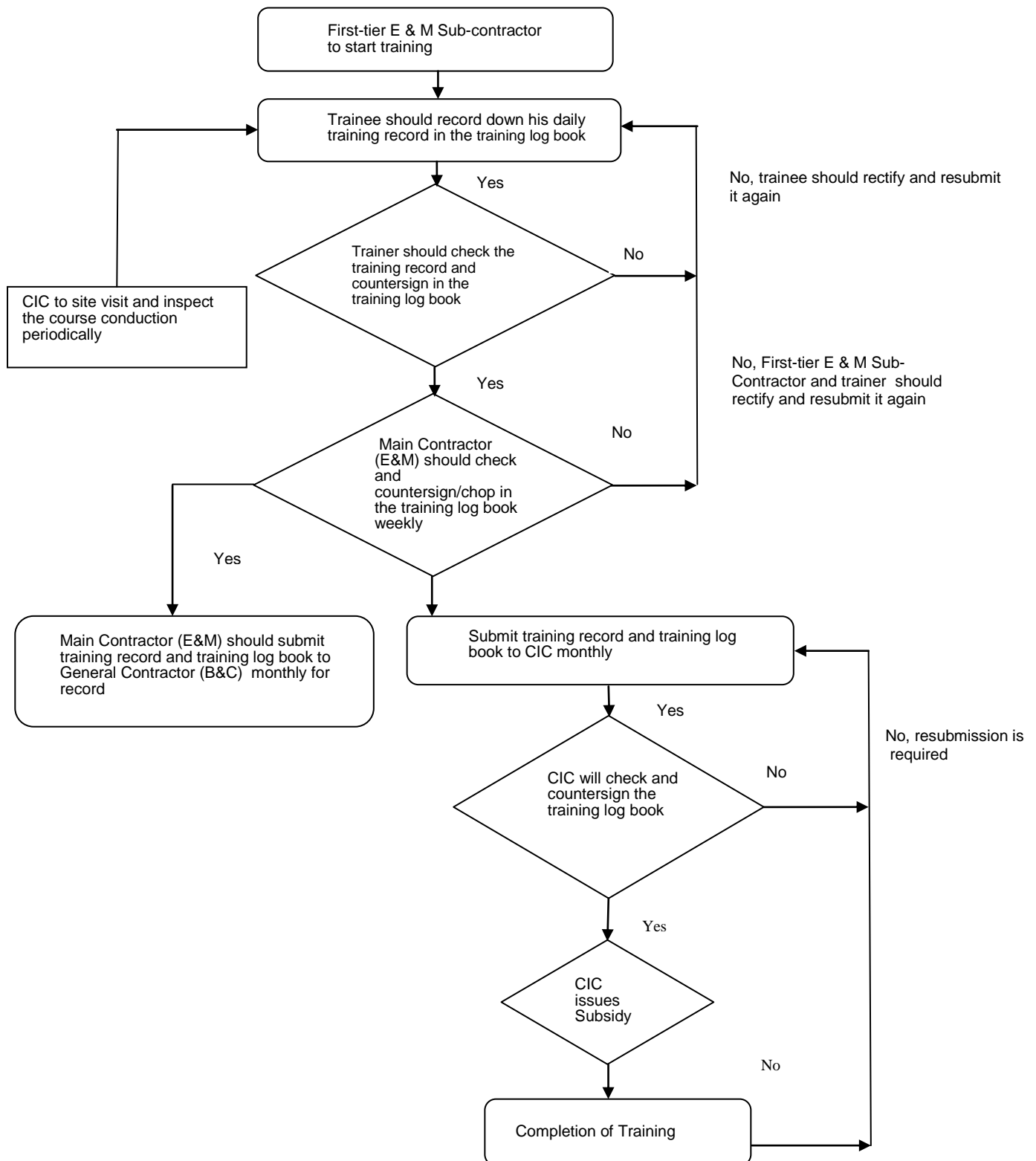
12.1 This Agreement shall be governed by and construed in accordance with the laws of Hong Kong Special Administrative Region of the People's Republic of China.

Master Flow Chart of Approval for CCTS - E & M Trades under B&C Main Contract

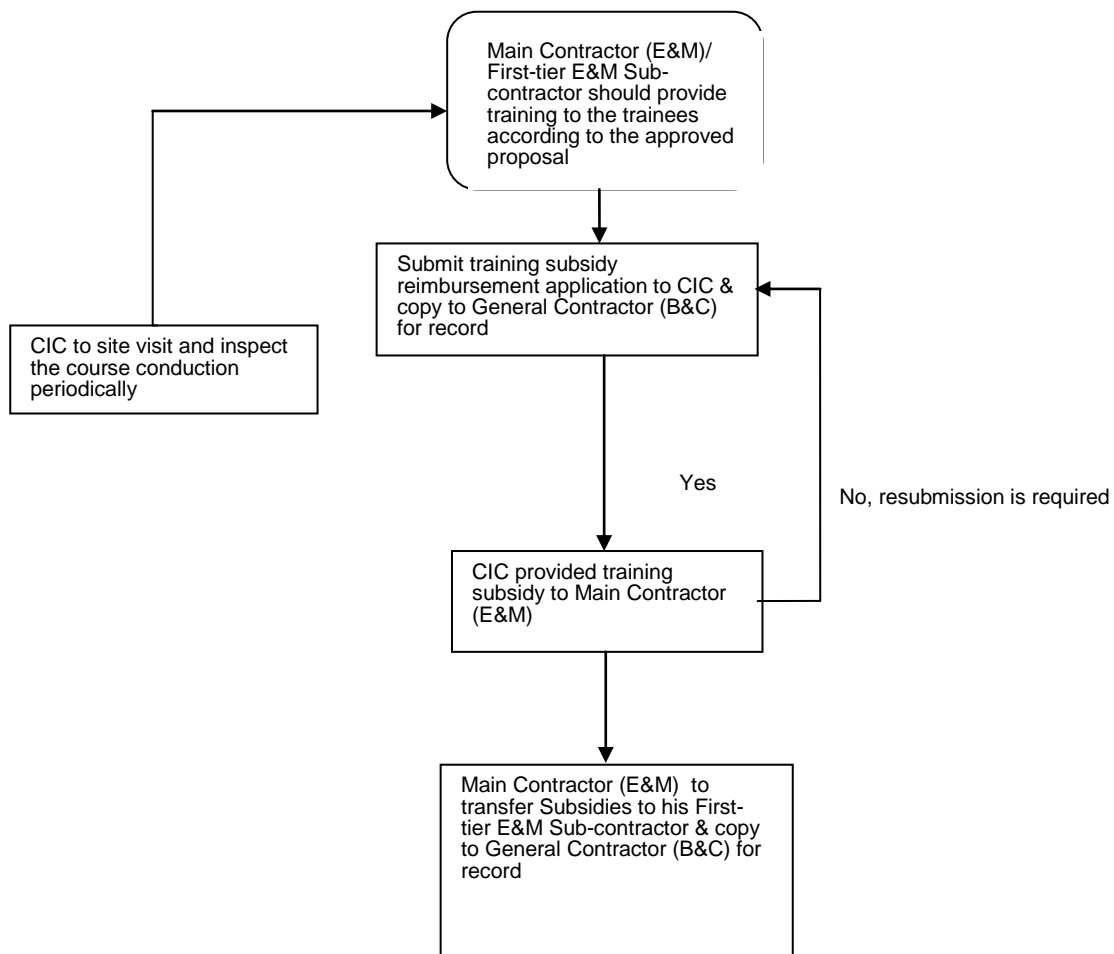


Contractor Cooperative Training Scheme - E & M Trades under B&C Main Contract

Flow Chart for monitoring training progress in Contractor Cooperative Training Scheme



Flow Chart of Payment Procedure



Contractor Cooperative Training Scheme - E & M trades
(CCTS)

Annex E

Assessment of Subsidy

Notes

The purpose to initiate this mechanism is to establish a standardize methodology for the evaluation of the subsidy offered to the above training schemes.

The final decision to grant subsidy is on the CITB.

Cost Item No.	Description of Cost Item	Unit	Quantit y	Rate (HK\$)	Reason of Adjustment	Adjustment Factor	Final Evaluation	Remark
			(i)	(ii)		(iii)	(iv) = (i) x (ii) x (iii)	
1	Qualified Instructor	man-day	a	b	Instructors provided by Contractors should be reimbursed. The ratio of trainer to trainee is 1:4 (See Annex G)	1.0	(iv) = 1.0 a b	The Rate b is based on the “Average Daily Wages of Workers Engaged in Public Sector Construction Projects as Reported by Main Contractors” published by the Census and Statistics Department at June 2012. For example, (Lift and escalator craftsman = \$583/ day)
2	Equipments solely for the training	nr-month (no. of unit per month)	d	e	Cost of Maintenance of equipment solely used for training during period of training is justified as subsidy. Additional equipments may be provided for the purpose of training and should be reimbursed.	f	(iv) = d e f	An adjustment factor “f” is applied which is expressed as a percentage of the unit hire rate “e”. This item is not normally payable when trainees are trained in normal job production situation where no extra equipment is needed solely for training.
3	Materials provided for the Training Steel bars, wire meshes etc	As appropriate (e.g. tonne, m ²)	g	h	Materials provided for the training can be used as site production. An adjustment factor is applied to provide an allowance for the extra wastage of materials due to training.	j	(iv) = g h j	“g” is the measurement of materials used for purpose of training and regard as wastage. “h” is the market buying rate of the materials solely for training. This item is not normally payable when trainees are trained in normal job production situation where no extra materials are needed solely for training.
4	Provision of Training Ground/Venue	m ²	k	l	No subsidy is considered for this item.	0.00	0.00	Only apply in very special case.
5	First-tier E & M Sub-contractor's Management/Admini stration Costs	nr-month	m	n	The First-tier E & M Sub-contractor may need to employ additional site supervising staffs to supervise and monitor the training programme, to produce regular reports to CIC and payment transfer etc.	1.0	(iv) = 1.0 m n but limited to a max of HK\$21,500 per month and duration is based on the length of the course	The adjustment factor is fixed at 1.0 is that it is envisaged that the supervising staffs does not required to work full time and a max of 1.0 is allowed. The HK\$21,500 per month is for 40 trainees and it will be adjusted on a pro-rata basis if the number of trainees is lesser.
6	Subsidy to Trainees	man-day	s	\$150 / day	Subsidy to trainees.	1.00	(iv) = 150s	“s” is the no. of training days same as the training duration in CIC, e.g. s = 150 days for lift and escalator installation and maintenance.

Cost Item No	Description of Cost Item	Unit	Quantity	Rate (HK\$)	Reason of Adjustment	Adjustment Factor	Final Evaluation	Remark
7	Other related costs				This item of cost may be allowed for consideration in the event that the First-tier E & M Sub-contractor may incur as a result of training and not covered by the above items 1 to 6.	To be considered case by case		

Legends

- a: The duration of instructors engaged in the training program
- b: The unit rate of instructors, reference is made to the “Average Daily Wages of Workers Engaged in Public Sector Construction Projects as Reported by Main Contractors” published by the Census & Statistics Department at June 2012
- d: The no. of equipments used for solely for training during the training period.
- e: The market hiring rate of the equipment
- f: The adjustment factor applied to cover part of the maintenance cost of the equipments/tools provided for the training. This adjustment factor is limited at a max of 50% on the assumption that the maintenance cost to be shared equally between CIC and the First-tier E & M Sub-contractor.
- g: The quantity of the materials provided for training is taken into account. This does not covered for the finished product which has a commercial value.
- h: The market value of the construction material.
- j: The adjustment factor allowed for extra wastage of materials in the manufacturing process of finished product arising from the training of trainees.
- k: The area of training ground/venue
- l: Rental rate of the training ground/venue
- m: The no. of the First-tier E & M Sub-contractor's staff to supervise, monitor and reporting during the course of training programme. The unit is expressed in no. of site personnel engaged in each calendar month.
- n: It is the month salary rate of the First-tier E & M Sub-contractor's site supervisory staff in item no. “m”.
- s: The no. of trainees in the training class expressed in training days.

Annex E

Table 1 – Schedule of Rate for Trainer's allowance

E & M CCTS Course	CWRB Code	Average Daily Wage (HK\$)	Training Duration (day)
Electrical Wireman	E305B	741.7	150
Fire Service Electrical Fitter	E306a	713.5	150
Fire Service Mechanical Fitter	E306b	713.5	150
Air Conditioning / Ventilation Mechanic	E314a, E314c, E314e	664.9	150
Lift Mechanic	E309a	583	150
Escalator Mechanic	E309b	583	150

Note:

1. The average daily wages is based on the “Average daily Wages of Workers Engaged in Public Sector Construction Projects as Reported by Main Contractor” published by the Census and Statistics Department's records as of June 2012



合作培訓計劃

Cooperative Training Scheme

計劃名稱 Type of Scheme	
訓練科別 (請填寫) Trade of Training (Fill in)	蓋章 (祇選一科) Chop (Select one only)
鋼筋屈紮 Steel Bar Bending	
木模板工 Formwork	

注: 蓋章須由負責培訓機構/公司蓋印確認

<div style="border: 1px solid black; width: 100px; height: 50px; margin: 0 auto;"></div> <p style="margin: 5px 0;">個人資料</p> <p style="margin: 0 0 10px 0;">PERSONAL DETAILS</p>	
	<p>姓名Name (須與身份證相同及用正楷書寫 Block letters, same as HKID Card)</p> <hr/> <p>中文 in Chinese :</p> <p>英文 in English :</p> <hr/>
<p>簽署/蓋章</p> <p>Signature/Chop</p>	<p>出生日期 Date of Birth : 年(Y) 月(M) 日(D)</p> <hr/> <p>住址 Address :</p> <hr/> <p>電話 Telephone :</p> <hr/> <p>家長(父/母)或監護人姓名 Name of Parent/Guardian :</p> <hr/> <p>受訓練時教育程度:</p> <p>Educational Standard Attained :</p> <hr/> <p>開始訓練日期</p> <p>Training Commencement Date :</p> <hr/>
<p>時填寫</p> <p>providing the training at the</p>	<div style="display: flex; justify-content: space-between; align-items: flex-end; padding: 10px;"> <div style="width: 60%;"> <p>學員簽署</p> <p>Trainee's Signature :</p> </div> <div style="width: 35%; text-align: center;"> <div style="border: 1px solid black; width: 100px; height: 100px; margin: 0 auto;"></div> <p>照片</p> <p>Photo</p> </div> </div>

(照片須具總承建商蓋章方為有效 Photos is valid only when it bears Main Contractor's Chop)



目錄 Contents	頁數 Page
● 訓練歷程彙列 Training Summary	i
● 個人資料 Personal Details	ii
● 訓練手冊使用方法 Notes on the use of this log book	1
● 日常習藝紀錄 Training Log	3
● 課程訓練天數及考勤紀錄 Training Days & Attendance Record	185
● 訓練評核紀錄 Record of Training Assessment	186

TRAINING LOG

平語 Instructor's/Lecturer's Comments:

訓練學院簽名及日期

3

TRAINING LOG

工藝導師/講師評語 Instructor's/Lecturer's Comments:

訓練學院獲名及日期

4

Annex G

Training Syllabus

- i) Electrical Wireman
- ii) Fire Service Electrical Fitter
- iii) Fire Service mechanical Fitter
- iv) Refrigeration/Air conditioning/ ventilation mechanic – Water System
- v) Refrigeration/Air conditioning/ ventilation mechanic – Thermal Insulation
- vi) Refrigeration/Air conditioning/ ventilation mechanic – Air System
- vii) Lift installation and maintenance
- viii) Escalator installation and maintenance

Teaching Period = 150 days

Pass Rate = 80%

Attendance Rate = 90%

Ratio of Trainer to Trainee = 1:4

Contractor (Electrical wireman) Cooperative Training Scheme (CCTS-E&M)

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “electrical wireman” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- understand the importance of site safety (training period: 1.5 weeks)
- know the use of electrical installation tools, equipment and testing devices (training period:1week)
- understand different products of conduit, wiring duct, wire and fittings (training period:1.5 weeks)
- know how to read drawings and the correct cutting techniques, installation methods and procedures for various conduits, wiring ducts, wires and fittings (training period:12 weeks)
- know the methods and procedures for controlled circuit, socket circuit, plug, junction box and wire connection of distribution box in wiring,

connecting and laying commonly-used illumination position according to the drawing (training period: 8 weeks)

- conduct test for electrical installation (non-live parts) according to Code of Practice for the Electricity (Wiring) Regulations(training period: 2 weeks)

Under normal circumstances, a person, who has undergone six months of training, can handle general electrical wiring work (non-live part) according to the verbal or written instruction given by registered electrical workers, who are responsible for the work. The trained person can correctly select and install suitable fittings according to the drawings, prepare and master suitable tools to complete the assigned work.

Summary of training contents

1. Understand the importance of site safety (training period:1.5 week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. When entering the construction site, a person has to receive specified site safety training, including electric safety (trainee can be arranged to take a “electric safety” course at Occupational Safety and Health Council); employer will also provide the required safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know the corresponding safety codes and working preparations:

- 1) Safety codes - Apart from the known safety codes, a construction site will have its own safety codes to assure site safety.
- 2) Electric safety –To let the trainee understand the hazards of electricity and how to use electrical tools and equipment safely, electrical safety installation and protective measures, as well as the system of work safety permit etc.
- 3) Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before

conducting work at height etc.

- 4) Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
- 5) Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working environment to ensure no one will be injured due to the blockage of other objects.
2. **Know the use of electrical installation tools, equipment and testing devices (training period:1week)**
3. **Understand different products of conduit, wiring duct, wire and fittings (training period:1.5week)**
 - Product knowledge in conduit and fittings
 - Product knowledge in wiring duct and fittings
 - Product knowledge in wire and fittings
 - Colour code adopted in fixed electrical installation
4. **Know how to read drawings and the correct cutting techniques, installation methods and procedures for various conduits, wiring ducts, wires and fittings (training period:12 weeks)**
 - Techniques for cutting of steel and plastic conduits, threading (screw threads), bending and installation etc.
 - Techniques for cutting and installing steel wiring ducts and fittings
5. **Know the methods and procedures for controlled circuit, socket circuit, plug, junction box and wire connection of distribution box in wiring, connecting and laying commonly-used illumination position according to the drawing (training period: 8 weeks)**
6. **Conduct test for electrical installation (non-live parts) according to Code of Practice for the Electricity (Wiring) Regulations (training period: 2 weeks), including:**
 - Continuity test for protective conductor
 - Continuity test for ring-shaped terminal electric conductor
 - Insulation resistance test
 - Polarity test and

- Earth electrode resistance test

Contractor (Fire services electrical fitter) Cooperative Training Scheme (CCTS-E&M)

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “fire services electrical fitter” for a comprehensive training within six months. After training, the trainee is expected to be able to :

- understand the importance of site safety (training period : 1.5 weeks)
- know (a) various conduit, cable trunking, cable tray and other fittings
(b) various electrical wires used in fire services
(c) basic equipment and elements in fire services
(d) relevant legislations on fire services electrical system (training period: 1 weeks)
- know how to safely use the tools, mechanical equipment and testing devices related to fire services electrical system (training period:1week)
- conduct test for fire services electrical installation (non-live parts)

according to Code of Practice for the Electricity (Wiring) Regulations
(training period : 1 week)

- know how to read installation drawings and cutting techniques, installation methods and procedures for various conduits and fittings
(training period : 9 weeks)
- know how to read installation drawings and cutting techniques, installation methods and procedures for various cable trunking, cable tray and fittings
(training period : 8 weeks)
- under the supervision of technician, know how to install simple fire services devices such as alarm bell, breakglass unit, smoke detector, heat detector, fire alarm indication panel and relevant wire installation etc
(training period : 4.5 weeks)

Summary of training contents

1. Understand the importance of site safety (1.5 weeks)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. When entering the construction site, a person has to receive specified site safety training, including electric safety (trainee can be arranged to take a “electric safety” course at Occupational Safety and Health Council); employer will also provide the required safety facilities during work; safety supervisors or supervising technicians must remind workers on dangers at work and relevant safety codes before working every day; moreover, the inspection and coaching of safety officer for construction site / safety supervisors can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trainee will finally know the corresponding safety codes and working preparations :

1. Safety codes - Apart from the known safety codes, a construction site will have its own enhanced safety codes to assure site safety.

2. Electric safety –To let the trainee understand the hazards of electricity and how to use electrical tools and equipment safely, electrical safety installation and protective measures, as well as the system of work safety permit etc.
3. Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before conducting work at height etc.
4. Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
5. Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working environment to ensure no one will be injured due to the blockage of other objects.

2. Know the basic equipment and elements of various conduit, cable trunking, cable tray, wires and fire services electrical system(1 weeks)

1. plastic conduit and fittings
2. steel conduit and fittings
3. plastic cable trunking and fittings
4. steel cable trunking and fittings
5. steel cable tray and fittings
6. fire resisting wire
7. basic equipment and elements in fire services system
 - Alarm Bell
 - Breakglass Unit
 - Smoke Detector
 - Heat Detector
 - Addressable Module
 - Fire Alarm Indication Panel
 - Battery & Charger
 - Visual Fire Alarm
 - Fire Pump Control Panel etc

8. relevant legislations on fire services system

3. Know how to safely use the tools, mechanical equipment and testing devices related to fire services electrical system (training period:1weeks)

A trained person should master the use of general working machines and tools, including required working machines and tools, the steps of using and safety codes in various trades. The common machines and tools include :

1. Electric Disc Cutter
2. Conduit Bender
3. Conduit Thread Die
4. Portable Drill
5. Cable Cutter & Wire Stripper
6. Cable Lug Plier
7. Jigsaw
8. Drilling Machine
9. Welding Machine
10. Multi-meter
11. Common hand tools e.g. iron hammer, handsaw, hand vice etc.

4. Conduct test for fire services electrical installation (non-live parts) according to Code of Practice for the Electricity (Wiring) Regulations (training period : 1 weeks) , including:

- continuity test for protective conductor
- Insulation resistance test and
- Polarity test

5. Know how to read installation drawings and cutting techniques, installation methods and procedures for various conduits and fittings (9 weeks)

1. A trained person should be able to read installation drawings, cut

plastic conduit materials based on the actual size on site, bend the conduit with suitable tools and join the fittings with suitable amount of glue until completing a stable and correctly positioned conduit installation.

2. A trained person should be able to read installation drawings, cut steel conduit materials based on the actual size on site, bend the conduit with suitable tools and join the fittings until completing a stable and correctly positioned conduit installation.

6. Know how to read installation drawings and cutting techniques, installation methods and procedures for various cable trunking, cable tray and fittings

(training period: 8 weeks)

1. A trained person should be able to read installation drawings and cut cable trunking with suitable tools based on the actual size on site, join the fittings until completing a stable and correctly positioned cable trunk.
2. A trained person should be able to read installation drawings and cut cable tray with suitable tools based on the actual size on site, install hanger and join fittings until completing a stable and correctly positioned installation.

7. Under the supervision of technician, know how to install simple fire services devices such as fire alarm, breakglass unit, smoke detector, heat detector, fire alarm indication panel and relevant wire installation etc (training period: 4.5 weeks)

1. A trained person under instruction of technicians should be able to install simple fire services devices like alarm bell, breakglass unit, smoke detector, heat detector, fire alarm indication panel and relevant wiring work etc.
2. A trained person under instruction of technicians should be able to install cables inside conduit and cable trunking.

Contractor (Fire services mechanical fitter)**Cooperative Training Scheme (CTS-E&M)****Purpose**

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “fire services mechanical fitter” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- understand the importance of site safety (training period : 1 week)
- know (a) various water hose and fittings commonly used in fire services
(b) various valves commonly used in fire services
(c) basic equipment and elements in fire services system
(d) relevant legislations on fire services system (training period: 1 week)
- understand the use of general machines and tools at work and the safety codes when in use (training period: 1 week)
- know the cutting and connection skills of pipes (training period : 12 weeks)

- know how to read installation drawings and install pipe bracket, flange, pipe and fittings (training period: 8 weeks)
- under the guidance of technicians, know how to install and conduct testing for simple fire services devices like valves, fire hydrant, fire hose, fire services inlet and fire sprinkler head etc (training period: 3 weeks)

Summary of training contents

1. Understand the importance of site safety (1 week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. Specified site safety training is required when entering site and employer will provide the required safety facilities during work; safety supervisors or supervising technicians must remind workers on dangers at work and relevant safety codes before working every day; moreover, the inspection and coaching of safety officer for construction site / safety supervisors can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trainee will finally know the corresponding safety codes and working preparations:

1. Safety codes - Apart from the known safety codes, construction site will have its own enhanced safety regulations to ensure site safety.
2. Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before conducting work at height etc.
3. Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
4. Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working

environment to ensure no one will be injured due to the blockage of other objects.

2. Know various water pipes, fittings, valves and basic equipment and elements in fire services system commonly used in fire services (1 week)

1. galvanized iron pipes and fittings
2. wrought iron pipes and fitting
3. fire pump
4. Gate Valve
5. Check Valve
6. Flexible Connector
7. Expansion Joint
8. Basic equipment and elements in fire services system
 - Fire Hydrant
 - Fire Hose Reel
 - FS Inlet
 - Fire Pump
 - Sprinkler Head
 - Sprinkler Control Valve etc.
9. Relevant legislations on fire services system

3. Understand the use of general machines and tools at work and the safety codes when in use (1 week)

A trained person should master the use of general working machines and tools, including required working machines and tools, the steps of using and safety codes in various trades. The common machines and tools include:

1. Electric Disc Cutter
2. Pipe Threading Machine
3. Baby Reed-Type Ratchet Threader
4. Portable Drill
5. Roll Grooving Machine
6. Drilling Machine

7. Welding Machine
8. Portable Hydraulic Pump
9. Pressure Gauge
10. Common hand tools e.g. iron hammer, handsaw, hand vice, pipe wrench, spanner etc.

4. Know the cutting and connection skills of pipes (12 weeks)

1. A trained person should be able to read installation drawings, cut galvanized iron pipe based on the actual size on site, thread pipe using pipe threading machine, adopt suitable tools and steps to connect pipes or fittings.
2. A trained person should be able to read installation drawings, cut galvanized iron pipe based on the actual size on site, groove by roll grooving machine, adopt suitable tools and steps to connect pipes or fittings.

5. Know how to read installation drawings and install pipe bracket, flange, pipe and fittings (training period: 8 weeks)

1. A trained person should be able to read installation drawings and install pipe bracket, flange, pipe and fittings according to the drawing.
2. A trained person should be able to conduct water pressure test under guidance of technicians.

6. Under the guidance of technicians, know how to install and conduct testing for simple fire services devices (training period: 3 weeks)

1. A trained person under the instruction of technicians should be able to install simple fire services devices, like valves, fire hydrant, fire hose reel, fire services inlet, fire sprinkler head etc.
2. A trained person under the instruction of technicians should be able to conduct water pressure test etc.

**Contractor (Air Conditioning and ventilation system–
water system) Cooperative Training Scheme (CCTS-
E&M)**

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person ;
- Person working in a declining industry and wanting for a change of field ;
- Anyone interested in the industry ;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “air conditioning – cold water and drainage pipe system” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- understand the importance of site safety (training period: 1 week);
- know the use of tools related to cold water and drainage pipe system (training period: 1 week);
- understand the operation of specialized machines of cold water and drainage pipe system;(training period: 2 weeks);
- understand the basic connection techniques for cold water and drainage pipe system;(training period:8 weeks);
- know the basic combined installation procedures for cold water and

- drainage pipe system;(training period: 8 weeks);
- know the effects of other facilities in cold water and drainage pipe system;(training period: 3 weeks);
- understand the application of cold water and drainage pipe system materials and the corresponding fitting parts;(training period: 2 weeks);
- understand and master the skills of general pipe treatment and test like cleaning of pipes and pressure test etc;(training period: 1 week);

Summary of training contents

1. Understand the importance of site safety (1 week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. When entering the construction site, a person has to receive specified site safety training; employer will also provide the required safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know the corresponding safety codes and working preparations:

1. Safety codes - Apart from the known safety codes, a construction site will have its own safety codes to assure site safety.
2. Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before conducting work at height etc.
3. Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
4. Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working environment to ensure no one will be injured due to the blockage of other objects.

2. Know the use of tools related to cold water and drainage pipe system (1 week)

A trained person should understand the use of tools related to cold water and drainage pipe system and have a clear thought of using which tools at different work steps. Yet, it does not apply to tools used in relatively more complicated working procedures, particularly for machines like electric threading machine and electric welding machine. For general hand tools like electric drill, measuring tape, iron hammer and handsaw, there shall be no problem in operation.

3. Understand the operation of specialized machines of cold water and drainage pipe system (2 weeks)

The main mechanical equipment for cold water and drainage pipe system are threading machine and welding machine. Both machines need special training, so a trainee is only required to understand their operation but no need to master the techniques. For floor stand drill and electric cutter, these are easier to learn and, thus, can know how to operate in a short time including the change of drill nozzle.

4. Understand the basic connection techniques for cold water and drainage pipe system (8 weeks)

Cold water pipe system mainly involves the connection of water pipes but the more complicated connection techniques in some parts like requirements for connecting different groups of machines require the basic knowledge in the simple connection before further operation. Thus, it is essentially important for a trainee to understand the basic connection techniques. After six months of training, a trainee can independently grasp the techniques of cutting straight and bent pipes below $\varnothing 80\text{mm}$, fittings required for pipe connection, production of different pipe brackets, connection of different valves and connection methods of plastic pipes etc.

5. Know the basic combined installation procedures for cold water and drainage pipe system (10 weeks)

Air conditioning cold water and drainage pipe system, including unit equipment, valve instrument, pipe hanger (喉管吊碼), has its own installation priorities. Therefore, no mistake can be appeared in the procedures and steps for installing combined system and the things involved are very complicated. In view of this, the trainee only needs to know basic combined installation procedures for cold water and drainage pipe system, particularly laying the cold water and drainage pipes outside the machine rooms including the position of pipe hanger according to the drawings will be most important. The matching between installation position of valves and unit equipment and environment is very important. A trainee should know how to support and assist his/her mentor to conduct a more complicated installation procedure.

6. Know the effects of other facilities in cold water and drainage pipe system;(training period (3 weeks))

Apart from pipes, there are other facilities fitted in for the operation of air conditioning cold water and drainage pipe system. The common facilities which a trainee is required to know are:

1. Unit equipment – AHU or PAU, FCU;
2. Valve facilities - gate valve, ball valve, electric valve (電掣), water volume adjusting valve;
3. Flexible Connector;
4. Spring Isolator;
5. Thermometer ;
6. Pressure Gauge.

Other complex facilities are not mentioned here as most of them will be used in the main machine room.

7. Understand the application of cold water and drainage pipe system materials and the corresponding fitting parts (2 weeks)

In the air conditioning cold water and drainage pipe system, the materials commonly used in cold water are wrought iron pipe and copper pipe whereas galvanized pipe and PVC or UPVC pipes are commonly used in

drainage pipe. A trainee is only required to know about the above materials during the six months of training. Cold water pipes can be used in welding or threading connection; drainage pipe of galvanized pipe can only be used for threading connection under normal conditions while PVC or UPVC pipes can only be adhered by glue. General parts in cold water and drainage pipes include screws, screw head (絲母), screw ring (介子), flange, flat iron bars, angle iron etc. Pipe hanger can be made by galvanized wrought iron or wire railings (絲干) of wrought iron fitted with U-shaped adjustment chute.

8. Understand and master the skills of general pipe treatment and test like cleaning of pipes and pressure test etc (1 week)

**Contractor (Air conditioning and ventilation system–
thermal insulation) Cooperative Training Scheme
(CCTS-E&M)**

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “air conditioning – thermal system” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- understand the importance of site safety (training period: 1 week);
- understand the products of various thermal materials in air conditioning thermal system (training period: 1 week);
- learn the correct cutting techniques, installation methods and procedures for the application in cold water pipe, water pipe and fittings in various thermal materials (training period: 12 weeks);
- learn the correct cutting techniques, installation methods and

procedures for the application in air duct and fittings in various thermal materials (training period: 12 weeks);

Under normal conditions, a trainee can independently handle part of the general cold water pipe air duct and its fittings related to thermal work. He/she can also correctly select and install suitable thermal materials according to drawings and can prepare and master suitable tools to independently or assisting his/her mentor to complete the assigned work.

Summary of training contents

1. Understand the importance of site safety (1 week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. When entering the construction site, a person has to receive specified site safety training; employer will also provide the required safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know the corresponding safety codes and working preparations:

- 1) Safety codes - Apart from the known safety codes, a construction site will have its own safety codes to assure site safety.
- 2) Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before conducting work at height etc.
- 3) Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
- 4) Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working environment to ensure no one will be injured due to the blockage of other objects.

2. Knowledge in thermal materials and simple heat principles (1 week)

Thermal materials include the following:

- Expandable Polystyrene (EPS) Foam (commonly known: foam plastics or white foam)
- Fiberglass Wool (commonly known: glass wool)
- Rigid Phenolic Foam (commonly known :bubble phenol or grey glue 灰膠)
- Flexible Elastomeric Nitride Rubber (commonly known :豬腸膠 pig intestine glue)
- Pre-Insulated Duct (PID) System (commonly known :三文治式保溫板風管系統 sandwich thermal plate air duct system)

3. Learn the correct cutting techniques, installation methods and procedures for the application in cold water pipe, water pipe and fittings in various thermal materials (training period : 12 weeks) :

- Use of foam plastics or white foam together with asphalt and plastering (3 weeks)
- Use of glass wool together with glue (3 weeks)
- Use of bubble phenol or grey glue together with glue (3 weeks)
- Use of flexible elastomeric nitride rubber together with glue and anti-freezing belt (3 weeks)

4. Learn the correct cutting techniques, installation methods and procedures for the application in air duct and fittings in various thermal materials (training period : 12 weeks):

- Use of glass wool together with aluminum nail and glue
- Use of bubble phenol or grey glue together with aluminum nail and glue or metal belt and glue
- Use of flexible elastomeric nitride rubber together with glue
- Use of PID system together with aluminum bars, flange, sealant and glue

Contractor (Air conditioning and ventilation system – air system) Cooperative Training Scheme (CCTS-E&M)

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “air conditioning and ventilation system – air duct system” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- understand the importance of site safety (training period: 1 week);
 - understand the use of relevant tools (training period: 1 week);
 - understand and grasp the skills in ordering suitable ventilation materials based on the design of the drawing and actual site conditions (training period: 8 weeks);
 - know the combined installation procedures for air duct system (training period: 10 weeks);
 - know the effects of other facilities in air duct system (training period: 4 weeks);
- understand the application of relevant materials and corresponding

fitting parts (training period:2 weeks)

Summary of training contents

1. Understand the importance of site safety (1 week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. When entering the construction site, a person has to receive specified site safety training; employer will also provide the required safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know the corresponding safety codes and working preparations:

1. Safety codes - Apart from the known safety codes, a construction site will have its own safety codes to assure site safety.
2. Preparations before working - For example, no damage on the tools, qualified working platform should be set up by specified workers before conducting work at height etc.
3. Points to note at work - For example, when conducting work at height on the working platform, a person should wear safety belt and the belt has to buckle on a secured place and be careful not to drop any object to prevent throwing object from a height etc.
4. Points to note when off work –For example, take good care of the used safety equipment for use in next time; clear the working environment to ensure no one will be injured due to the blockage of other objects.
5. Understand the materials used in fire isolation zone.

2. Understand the use of relevant tools (1 week)

A trained person should understand the use of work-related tools and have a clear thought of using which tools at different work steps. However, proficiency varies with different people, especially the use of iron scissors requires a long time practice to make a perfect move. For common had

tools like electric drill, scribe, steel ruler, iron hammer, there shall be no problem in use.

3. Understand and grasp the skills in ordering suitable ventilation materials based on the design of the drawing and actual site conditions (8 weeks)

Air duct materials are not cut and produced on site nowadays mainly because the manufacturers and factories produce the materials according to the order instruction by contractors and deliver the products to assemble on site. Thus, workers must understand how to draw the product drawing and provide sufficient information for the manufacturer to make the air duct units.

4. Know the combined installation procedures for air duct system (10 weeks)

The air duct in air conditioning and ventilation system are more or less the same. A trained person should know to support and assist his/her mentor to conduct the work on the assembly of flange and the assembly of required parts, priority of installation, other facilities fitted in air duct system, the sealing position, the branching position, air outlet position or return air inlet when the units are formed in shape. The person should also know how to install pipe hanger and fitting parts, e.g. where and how to install the U-shaped adjusting chute (commonly known as 欖仔 or 公仔頭) or spring isolator (under special conditions), the length of hanger pipe wire railings and the required quantity and effect of screw head and screw ring at different positions etc.

5. Know the combined installation procedures for air duct system (4 weeks)

Apart from air outlet duct, there are other facilities fitted in for the operation of air conditioning and ventilation system. The common facilities that a trainee is required to know are:

1. Duct Type Volume Control Damper (VCD);

2. Splitter;
3. Silencer;
4. Flexible Duct;
5. Air Grille (common ones: iron, aluminum and stainless steel including bottom grille, double grille (雙葉咀), single grille, louver grille, waterproof louver grille, straight grille, crab-clawed grille, round grille etc);
6. Heater;
7. Filter;
8. Fire Damper (including local and overseas);
9. Access Door or Access Panel;
10. VAV Box;
11. Insulated Flexible Duct or Flexible Duct.

Other special facilities are not mentioned here, e.g. exhaust hood and its relevant fittings, electrostatic precipitator etc.

6. Understand the application of relevant materials and corresponding fitting parts (2 weeks)

In air conditioning and ventilation system, galvanized sheet (commonly known as galvanized iron) and stainless steel sheet are commonly used in air outlet duct while the galvanized sheet is the most commonly used. Since the production procedure of stainless steel is the same as galvanized sheet, a trainee is only required to know the production of galvanized sheet during the six months of training. The size of air outlet duct will determine the thickness of galvanized sheet. The thickness of official galvanized sheet ranges between 0.6mm – 1.2mm generally. Zinc plate is mainly used in the combination parts of galvanized air outlet duct, including the screw, screw head, screw ring, flange, pincher, flat iron bar, angle iron etc. Pipe hanger can be made of galvanized wrought iron or wrought iron wire railings and angle iron with U-shaped adjusting chute. Air outlet duct made of stainless steel and other materials are not mentioned here, including different types of fire resisting shields and rubber hoses etc.

Contractor (Lift installation and maintenance)

Cooperative Training Scheme (CTS-E&M)

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “lift installation and maintenance” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- know and understand the safety requirements for general work at construction sites, safety requirements for lift work and risk assessment of individual work (training period : 0.5 week);
- understand the types and structure of lift (training period : 1.5 weeks);
- learn the features of the main parts in lift; its installation methods and working procedures; use of tools and knowing the installation drawing and understanding its contents (training period : 12 weeks);
- learn different types of lift maintenance requirements and the main adjusting units; understand basic control principles and circuit diagrams (training period: 12 weeks).

Under normal conditions, a trained person after six months of training can assist competent lift practitioners in conducting lift installation and maintenance work with the ability of preparing and getting suitable tools to complete the assigned work.

Summary of training contents

1. Know and understand the safety requirements for general work at construction sites, safety requirements for lift work and risk assessment of individual work (0.5 week)

Trainee will receive construction site safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. In the meantime, the employer will introduce the safety policy and requirements of the company and the related safety laws and safe working codes as well as risk assessment for individual work task.

When entering a particular construction site, a person has to receive site safety training of that site as requested by the main contractor; employer will also provide the required personal protective equipment and relevant safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know and understand relevant safety laws and codes and risk assessment of work:

- a) Safety laws and safety codes– Apart from the known safety laws and codes, the company and the site will have their own set of safety policies and codes to match with actual needs and ensure the safety of trainees and other personnel.
- b) Selecting and wearing of personal protective equipment - Understand how to correctly select, wear and maintain personal protective equipment to protect personal safety.
- c) Safe work flow - Know and understand safe working procedures, including general manual hauling and safety cooperative arrangement under group work etc.

- d) Risk assessment - Understand risk assessment of individual work and can conduct simple risk assessment before work to prevent accidents.

2. Understand the types and structure of lift (training period:1.5 weeks)

A trainee will first know about the types of lifts and their operative characteristics, including:

- electric traction lift;
- hydraulic lift;
- machine roomless lift;
- special lift types of other individual companies;

To introduce the basic structures of lifts and the functions of their components, such as motor, control cabinet, navigation, overspeed governor, outer door, cradle, safety gear, counterweight, rope, compensating rope/chain, cage, portable cable, lift shaft selector, buffer etc.

A trainee will be arranged to visit the lift under the company's maintenance and understand the lift type and structure on site.

3. Learn the features of the main parts in lift; its installation methods and working procedures; use of tools and know the installation drawing and understand its contents (training period : 12 weeks)

A trainee will receive on-site installation training on the installation site:

- use of tools (e.g. hanging weight, level, rail guide card (導軌卡) etc;
- installing working drawing and measurement of lift shaft balance line;
- rail guide installation and adjustment;
- installation of outer door, outer door frame and ground base (地砵);
- installation of motor;
- installation of cradle and safety gear;
- counterweight installation;
- rope installation;
- compensating rope/chain installation;
- cage installation;
- buffer installation;

- portable cable installation;
- lift shaft selector installation;
- installation of electrical equipment;
- installation of other facilities (e.g. intercom system, CCTV etc.).

To know the use of tools and work flow and methods during the installation training to further understand the characteristics of main units in lift and the safety requirements at work and can then work with the competent lift personnel.

4. Learn different types of lift maintenance requirements and the main adjusting units (training period : 12 weeks)

A trainee will receive maintenance training at different maintenance places:

- control methods of different lifts;
- basic safety circuit and controlled circuit diagram;
- repair and maintenance requirements for different types of lifts;
- basic adjustment methods for main units;
- check on safety equipment;
- refueling and cleaning requirements for different units;
- checking methods and requirements for different units;
- use of general measurement tools and devices;
- know the lift release procedures;
- safety requirements for work at different positions (e.g. machine room, opening of outer door, work at lift cage roof and lift pit);

To know the use of tools and work flow and methods during the maintenance process to further understand the characteristics of main units in lift and the safety requirements at work and can then work with the competent lift personnel.

Contractor (Escalator installation and maintenance)

Cooperative Training Scheme (CTS-E&M)

Purpose

This Scheme is to provide human resources facilities for the manpower shortage situation in the construction industry. On the other hand, it also serves as an opportunity for unemployed youth or individual person or people working in declining industry wishing for a change of field to directly involve in construction site work even without any site working experience.

Suitable for

- Unemployed person;
- Person working in a declining industry and wanting for a change of field;
- Anyone interested in the industry;
- Person wishing for a job transfer.

Any of the above persons, male or female, with age above 18 can apply for the Scheme. No working experience is required.

Training outcome

The following contents are targeted for “escalator installation and maintenance” for a comprehensive training within six months. After training, the trainee is expected to be able to:

- know and understand the safety requirements for general work at construction sites, safety requirements for escalator work and risk assessment of individual work (training period : 0.5week);
- understand the types and structure of escalator (training period : 1.5weeks);
- learn the features of the main parts in escalator; its installation methods and working procedures; use of tools and knowing the installation drawing and understanding its contents (training period : 8weeks);
- learn different types of escalator maintenance requirements and the main adjusting units; understand basic control principles and circuit diagrams

(training period : 16weeks);

Under normal conditions, a trained person after six months of training can assist competent escalator practitioners in conducting escalator installation and maintenance work with the ability of preparing and getting suitable tools to complete the assigned work.

Summary of training contents

1. Know and understand the safety requirements for general work at construction sites, safety requirements for escalator work and risk assessment of individual work (0.5week)

Trainee will receive construction industry safety training for at least one day before entering construction site and obtain a Construction Industry Safety Training Certificate, commonly known as “Green Card”. In the meantime, the employer will introduce the safety policy and requirements of the company and the related safety laws and safe working codes as well as risk assessment for individual work task.

When entering a particular construction site, a person has to receive site safety training of that site as requested by the main contractor; employer will also provide the required personal protective equipment and relevant safety facilities during work; moreover, the inspection and coaching of safety officer for construction site can have a certain effect on enhancing awareness of the importance of site safety for the trainees.

A trained person will finally know and understand relevant safety laws and codes and risk assessment of work:

- a) Safety laws and safety codes– Apart from the known safety laws and codes, the company and the site will have their own set of safety policies and codes to match with actual needs and ensure the safety of trainees and other personnel.
- b) Selecting and wearing of personal protective equipment - Understand how to correctly select, wear and maintain personal protective equipment to protect personal safety.
- c) Safe work flow - Know and understand safe working procedures, including general manual hauling and safety cooperative arrangement

under group work etc.

- d) Risk assessment - Understand risk assessment of individual work and can conduct simple risk assessment before work to prevent accidents.

2. Understand the types and structure of escalator (training period : 1.5weeks)

- A trainee will first understand the basic structures of escalators and the functions of their components, such as motor, control cabinet, main drive chain, main drive gear, escalator framework, panel, skirting plate, overspeed governor, brake, auxiliary brake, ladder steps, ladder step chain, handrail, handrail chain, handrail guide shoe and ladder comb etc.

A trainee will be arranged to visit the escalator under the company's maintenance and understand the structural operation features of the escalator on site.

3. Learn the features of the main parts in escalator; its installation methods and working procedures; use of tools and knowing the installation drawing and understanding its contents (training period : 8weeks)

A trainee will receive on-site installation training on the installation site;

- installing working drawing and measurement of bearing point position;
- escalator framework installation;
- connecting escalator framework;
- ladder steps installation;
- main drive chain installation and tension adjustment;
- ladder step chain installation and tension adjustment;
- handrail chain installation and tension adjustment;
- handrail guide shoe and ladder comb installation and adjustment;
- skirting plate installation;
- electrical equipment installation;
- safety equipment installation;
- exterior panel installation;

- other equipment and special option device installation (e.g. lighting, automatic sensor device etc)

To know the use of tools and work flow and methods during the installation training to further understand the characteristics of main units in escalator and the safety requirements at work and can then work with the competent escalator personnel.

4. Learn different types of escalator maintenance requirements and the main adjusting units; understand basic control principles and circuit diagrams (training period : 16weeks)

A trainee will receive maintenance training at different maintenance places:

- operation control methods of different types of escalators;
- basic safety and controlled circuit diagram;
- maintenance requirements for different models of escalators;
- basic adjustment methods for main components;
- check of safety equipment;
- refueling and cleaning requirements for different units;
- checking methods and requirements for different units;
- use of common measurement tools and devices;

To know the use of tools and work flow and methods during the maintenance process to further understand the characteristics of main units in escalator and the safety requirements at work and can then work with the competent escalator personnel.

List of Trades Entitled to Training Allowance of HK\$360/day Under CCTS E&M Trades

- i) Fire Service Electrical Fitter
- ii) Fire Service mechanical Fitter
- iii) Refrigeration/Air conditioning/ ventilation mechanic – Water System
- iv) Refrigeration/Air conditioning/ ventilation mechanic – Air System
- v) Lift installation and maintenance
- vi) Escalator installation and maintenance

List of Trades Entitled to Training Allowance of HK\$170/day Under CCTS E&M Trades

- i) Electrical Wireman
- ii) Refrigeration/Air conditioning/ ventilation mechanic – Thermal Insulation