

## **5.0 Discussion and Conclusion**

### 5.1 Discussion and Recommendations

#### 1. Increasing roles in safety

Site technicians are increasingly involved in safety management of the construction works and are regarded as the key persons in maintaining site safety.

#### 2. Mandatory basic construction industry safety training

Not all site technicians have received the basic construction industry safety (Green Card) training. There are still 12.5% of the site foremen who have not received the training. Rowlinson (2000) reports that in an accident investigate for the Hong Kong Housing Authority (HKHA), almost 80% of workers involved in accidents had received safety training while there were about 20% of workers who were involved in accidents had received no training at all. It is recommended that all site operative staffs to acquire a mandatory construction industry safety training.

It is recommended that safety elements to be incorporated in the craft and technician training courses. Rowlinson (2000) also reports that workers who have received craft training have low accident rate. This may suggest that either workers with craft training act more safely or the number of workers with craft training employed on site is low.

#### 3. Provide training in addition to the basic construction industry safety course

The one-day basic construction industry safety training (Green Card) may be sufficient for workers to carry out their work but may not be sufficient for site staffs at supervisory level to perform their tasks effectively. It is recommended to provide an additional a two-day advanced construction industry safety (Silver Card) training to site technicians.

It is recommended that a job-specific safety training aimed at equipping individuals to be engaged in a specific job should be provided. Examples include training for those staffs engaged in working at height, excavation, confined space, lifting, plants and machinery, electricity, demolition, blasting and so on.

It is also recommended that all site technicians to maintain a continuous development record of training. Tang et al (1998) recommends that those who have completed a training course should be issued with a certificate.

#### 4. Insufficient safety supervisors

There are not enough safety supervisors working on sites. It is recommended to provide more training to site staffs as described previously.

#### 5. Implementation of Safety Management System

Companies that implement a safety management system have been observed to provide more training to their employees. Under the proposed Factories and Industrial Undertakings (Safety Management) Regulation, a safety management system is required to be implemented and maintained. Hong Kong's strategy on

work safety has been essentially based on an enforcement approach, which has the problem that it does not build up a safety culture among workers. The proposed regulation requires the industry to emphasize on implementing a safety management system for enhancing safety standards and culture (HKCA News, 1999).

## 6. Course Curriculum

Listed below are some of the course outlines used or suggested by various people.

It can be seen that all of the curricula cover the same areas of safety training.

Table 5-1 Course Curriculum in Safety

CITA Safety Supervisor Course, CITA (2000)	<ul style="list-style-type: none"> <li>• F&amp;IU Ordinance and its subsidiary Regulations</li> <li>• Occupational Safety and Health Regulations</li> <li>• Safety management and training techniques</li> <li>• Principles of accidents prevention</li> </ul>
Gow (1991)	<ul style="list-style-type: none"> <li>• Safety technology</li> <li>• Management</li> <li>• Health and hygiene</li> <li>• Legislation</li> </ul>
Labour Department (1998)	<ul style="list-style-type: none"> <li>• General safety training</li> <li>• Job specific safety training</li> <li>• Safety Management</li> </ul>
Current study	<ul style="list-style-type: none"> <li>• Legal responsibilities</li> <li>• Contractual obligation</li> <li>• Safety working procedures/health and hygiene</li> <li>• Correct selection, use and maintenance of PPE</li> <li>• Safety management</li> </ul>

It is recommended that at least a 42 hours of training should be provided to site technicians which cover safety legislation, contractual obligation, basic safety practice, health and hygiene, safety management and, last but not least, a job specific training for the individuals.

## 5.2 Further Research

The following areas of studies are recommended.

1. To study the effects of safety training on the accident rate in the construction industry in Hong Kong.
2. To study the need of registration of site technicians.
3. To study how accident rate relates to the size of the construction projects. It is believed that accidents do occur in all types of project size and safety awareness should be promoted to workers for all types of project. This may require safety education to be provided at an earlier stage, such as at the secondary education level. Skinner (1999) considers that safety awareness in general is an essential attitude to be developed in young children and one which can be applied and extended throughout their lives.
4. Although a lot has been discussed on providing more training, there is also a need to study whether or not there are sufficient training facilities and qualified instructors in

meeting the scale of the training required.

5. There is also a need to evaluate the effectiveness of the safety training. It is believed that different levels of staff would require different ways of training. The effectiveness of the ways in conducting the training should also be studied and perhaps new approach or methods using new media in training can be found.
6. To study the degree of safety awareness being used in the general procurement procedures in the construction industry. It has been reported that personal protection equipment provided to workers are substandard and do not operate effectively in protecting the persons. For example, Green Cross (1999) finds that the effectiveness of hard hats decreases with the length of usage of the hats and it is important to set out procurement and replacement policies for the use of personal protection equipment.

### 5.3 Conclusion

The study finds that more safety training should be provided to site technicians who have an increasing important role in promoting and enforcing safety in the construction industry. It also recommends that safety training should be made mandatory to the site technicians. The curriculum and the duration of the training should meet a prescribed standard before one can be considered as a competent technician. There may also be a need to provide more training facilities and more qualified instructors, and to introduce more effective methods in conducting the training.