

Construction Industry Council
3rd Progress Report of Committee on Construction Site Safety

Purpose

This paper outlines the main points discussed at the 3rd meeting of the Committee on Construction Site Safety held on 11 October 2007. The record of attendance is at Annex.

Issues Discussed

2. Members discussed the following items –
 - An initial study on safety of renovation, maintenance, alteration and addition (RMAA) works
 - Safety of tower cranes
 - Study on occupational exposure to hot weather
 - 1st Summary Report of Informal Task Force on Permanent Safety Features for Buildings (TF-PSF)
 - 1st Summary Report of Informal Task Force on Co-operation with Property Management Companies (TF-PMC)
 - 1st Summary Report of Informal Task Force on Site Vehicles and Mobile Plant (TF-SV&MP)

Progress on Matters Arising from 2nd Meeting on 13 July 2007

3. The matters recorded in paragraph 23 of the progress report for the 2nd meeting would be discussed in subsequent agenda items.

An Initial Study on Safety of RMAA Works**(A) *Introduction***

4. In view of the growing proportion of accidents taken up by RMAA works, the Working Group on Construction Site Safety and Employees' Compensation Insurance of the former PCICB had conducted extensive discussions on possible solutions. The Secretariat

had taken stock of these discussions and identified several improvement areas, namely legislation and enforcement; safety devices; training; publication; as well as publicity and promotion. The improvement measures in relation to legislation and enforcement by LD was discussed at the 2nd meeting of the Committee on 13 July 2007. The remaining subject areas were discussed at the meeting.

(B) *Legislation and enforcement - BD*

5. The Buildings Ordinance (BO) was enacted to provide for planning, design and construction of buildings and associated works. Its main objective was on the safety of occupants of buildings and the general public. "Building works" was given a wide definition in BO and included RMAA works. Under section 14(1) of BO, approval and consent of the Building Authority were required for building works. However, building works not involving the structure of buildings were exempted from such requirement by virtue of section 41(3).

6. On enforcement, major RMAA works requiring approval and consent were subject to normal building controls including routine inspections by the Site Monitoring Section of BD covering all safety aspects and compliance with the approved plans. On the other hand, most minor RMAA works were executed without prior approval and consent and were not subject only to Site Audit Checking conducted by BD's district staff in conjunction with other duties such as attending complaints.

7. The control on minor works would be tightened through the Minor Works Control System (MWCS) being taken forward by BD. One of the main features would be a registration system for Registered Minor Works Contractors (RMWC). Registration would be company-based but self-employed persons engaged in minor works could seek registration in the lowest category as individuals. BD was discussing with DEVB and the concerned industry stakeholders on aligning the trade classification in the lowest category with the Construction Workers Registration System. BD delivered a briefing on the MWCS to the Legislative Council Panel on Planning, Lands and Works in March 2007 and was expecting to introduce the enabling legislation within 2007.

8. Members supported the early introduction of the MWCS to tighten the control on entities engaged in executing minor RMAA works, in particular their safety performance. Efforts should be made to

accommodate the requirements of the industry in the trade classification of the MWCS so as to ensure smooth implementation.

(C) Safety devices

9. Given that permanent devices for anchoring safety belts were not available in most existing buildings, efforts had been made to identify suitable transportable temporary anchorage devices (TTAD) for the industry. In this regard, the cross beam (horizontal prop) was available on the market at an affordable price of \$2,000 per unit and was being promoted through a sponsorship scheme launched by LD and OSHC in October 2005 to provide a subsidy of \$2,500 to small and medium contractors for purchasing the device together with safety belt and fall arrestor. Given that the usefulness of the device had been established, TF-PMC was exploring the possibility of acquisition of these devices by property management companies (PMC) for shared use by workers executing RMAA works on external walls.

10. The Construction Industry Institute – Hong Kong and Hong Kong Polytechnic University had developed a prototype for the Rapid Demountable Platform (RDP) which could be assembled in the interior of buildings for erection adjacent to windows to provide a safe platform for working on external walls. Members agreed to keep in view of further development of the device.

11. The former PCICB had commissioned CITA to develop a vertical prop as an alternative to horizontal props. Members agreed with CITA's proposal to abandon the project because the device could cause damage to floors and ceilings. The device was also unreliable since its load bearing capacity would depend on the highly variable frictional resistance of floor and ceiling surfaces. The weight of about 45 kg was too heavy for convenient transportation.

(D) Training

12. OSHC and CITA were offering training courses on working at height; erection, alteration and dismantling of truss-out scaffolds; as well as use of safety belts and temporary transportable anchorage devices. The coverage of these courses was considered to be adequate. Given their low attendance rates, efforts should be made to promote these courses through the MWCS after the launch of the system.

13. Members felt that besides training, the behaviour of workers would also affect safety performance. An informal task force would therefore be established to examine how site safety could be tackled from the behavioural perspective.

(E) Publications

14. OSHC, LD and BD had published comprehensive sets of publications covering all aspects of safety of working at height in RMAA works. OSHC publications included guidelines for specific sectors (such as building services works) and pamphlets providing guidance for safety precautions in working at height. The portfolio for LD encompassed guides to legislation, Codes of Practice issue under the Factories and Industrial Undertakings Ordinance, guidance notes and casebooks for fatal accidents. BD had published guidelines for design and construction of bamboo scaffolds, removal of unauthorized building works, maintenance of external walls and guidebook for building maintenance. Members considered that the current publications were adequate for providing guidance to the industry.

(F) Publicity and promotion

15. OSHC, LD and BD were making continuous efforts to promote safety awareness on RMAA works. LD maintained close contact with the concerned trade associations for conveying safety messages to contractors and workers. OSHC had established the Construction Industry Safety and Health Committee and Property Management and Cleansing Service Safety and Health Committee to facilitate collaboration in improving site safety. OSHC, LD and BD also promoted safety awareness through seminar, talks, exhibitions and annual publicity campaigns such as the Construction Safety Campaign organized by OSHC and the Annual Building Safety Carnival organized by BD. Safety messages were also propagated through Announcement in the Public Interest and radio promotion programme.

16. Members considered the current promotion efforts to be adequate. Future promotion efforts should focus on raising the awareness of individual building owners on their responsibilities in relation to the safety of works executed on their premises and the consequences of neglecting these responsibilities and noted. This initiative was being pursued through TF-PMC.

(G) Conclusion

17. Members had conducted an exhaustive examination of the improvements areas for working at height in RMAA works and identified improvement measures which would be followed up by TF-PMC. Furthermore, at the 2nd meeting held on 13 July 2007, LD was urged to consider strengthening its staff establishment for taking enforcement actions in relation to the provisions of the Construction Sites (Safety) Regulation on prevention of fall from height so as to cope with the additional workload resulting from the ageing of buildings and the Mandatory Building Inspection Scheme being taken forward by BD.

Safety of Tower Cranes

18. The Informal Task Force on Tower Cranes (TF-TC) submitted a report putting forward recommendations for improving the safety of tower crane operation reached through the discussions at the 1st and 2nd meeting held on 17 August and 8 September 2007 respectively.

19. The Task Force found that, in terms of legislation, the Occupational Safety and Health Ordinance (OSHO) imposed general duties the main contractor to ensure that any plant installed and used on his site would be safe and without risk to health to workers. The Factories and Industrial Undertaking (Lifting Appliances and Lifting Gear) Regulations (LALGR) required the owner of a crane to ensure, inter alia, that it was of sound construction, free from patent defects, operated by a competent person (trained operator) and subject to periodic inspection and examination by a competent examiner. The Commissioner of Labour has issued under the Factories and Industrial Undertaking Ordinance the Code of Practice for Safe Use of Tower Cranes (COP) providing practical guidance on safety of tower crane operations.

20. Having reviewed the existing practices on tower crane operations and identified the problems and issues, the Task Force recommended the following improvement measures –

- enhancements to COP including better control of the documents related to tower cranes (such as maintenance logbooks) and making them available for on-site inspection, engagement of competent operatives for tower crane operation, improving supervision through conducting risk assessments, preparing

Chinese method statements and direct supervision by supervising engineers employed by the principal contractor;

- improving the competence of operatives involve in tower crane operations through training courses on erection, climbing and dismantling of tower cranes for concerned technicians, on rigging activities related to tower cranes for concerned workers, and on management of erection, climbing and dismantling of tower cranes and familiarization of different tower crane models for persons engaged in supervising such operations;
- inclusion of trades for tower crane operation in the trade classification of the Construction Workers Registration Systems;
- inclusion of trades for tower crane operation in the trade classification of the Voluntary Subcontractor Registration Scheme administered by CIC; and
- introduction of statutory registration system for ensuring the functionality of tower cranes, the competence of specialist contractors, maintenance contractors and examiners.

21. LD proposed to promulgate the recommended improvements to the COP as guidelines by CIC to expedite their introduction. LD would issue Suspension Notices for contravention of these guidelines so as to assure their adoption by the industry. Incorporation of the guidelines into the COP could be considered one year later. LD considered that administration charges, lack of flexibility and unnecessary restriction to the industry were possible drawbacks of statutory registration system the key functions of which were adequately covered under the current statutory framework. While a statutory registration system was advocated on the ground of the remarkable success achieved by the Builders' Lift and Tower Worker Platform (Safety) Ordinance in enhancing the safety of these installations, several Members preferred to implement the recommended improvement measures through contractual and administrative arrangements first and to consider legislation later subject to the readiness of the industry.

22. DEVB advised that the proposed target of including additional trades for tower crane operations in the Construction Workers Registration System by May 2008 was not realistic given the need to effect such changes through legislative procedures.

Study on Occupational Exposure to Hot Weather

23. Gammon Construction Limited presented the findings of its study on occupational exposure to hot weather. Accident statistics suggested some correlation between accident rates and hot weather. For instance, based on the data between 2002 and 2004, the 3-month moving average of reportable accidents for the local construction industry for the summer months were about 11% above the other months. The fatal site accidents statistics for between 2004 to 2006 showed that 58% of them occurred between June and September.

24. The report suggested to mitigate the effect of hot weather through avoiding heavy manual work in hot environment and consider if works could be executed by mechanical means or in cooler parts of the day. Heat stress could also be reduced by providing shelter, blowing fans, provision of adequate cool drinks and rest breaks.

25. Members agreed to form an informal task force led by Mr James Blake to develop guidelines for working in hot weather and to explore the possibility of promoting their adoption through contractual provisions such as the pay for safety scheme.

1st Summary Report of Informal Task Force on Permanent Safety Features for Buildings

26. The 1st meeting of the task force was held on 7 August 2007 to discuss the provision of permanent design features for enhancing the safety RMAA carried out on the external walls of buildings. The general consensus was that, commercial buildings were usually equipped with gondolas and should not be a concern. Gondolas would be one of the possible options for residential buildings provided that space for such installations was available on rooftops. In other cases, the installation of permanent anchorage points for attaching safety belts could be a possible alternative subject to developing appropriate design guidelines as well as procedures for ensuring proper maintenance and testing. The Task Force would further develop these options.

1st Summary Report of Informal Task Force on Co-operation with Property Management Companies

27. The Task Force held the 1st meeting on 10 September 2007 to explore the possible measures for enhancing the co-operation between BD, LD and PMC in enhancing the safety of repair and maintenance

works involving working at height. The Task Force agreed to focus on three initiatives, namely considering ways for improving the voluntary referral mechanism introduced in 2004 including issuing guidelines to staff of PMC's for detecting unsafe working conditions and for making referrals to LD; examining the feasibility of PMC's providing TTAD for use by workers carrying out repair and maintenance works for individual building owners; and ways for promoting the awareness of individual building owners on their responsibility on the safety of works executed on their premises and the consequences of neglecting these responsibilities.

1st Summary Report of Informal Task Force on Site Vehicles and Mobile Plant

28. The 1st meeting of the Task Force was held on 27 August 2007 to examine the measures for improving the safety of site vehicles and mobile plants. The Task Force agreed that CCTV's would be effective for reducing accidents arising from site vehicles and mobile plants given that over the past seven years there were 13 fatal accidents caused by site vehicles and mobile plant and six of these involved reversing. The installation of CCTV should be complemented by improving the system of working, enhancing of safety awareness of the workforce and other reversing safety devices such as audible alarms.

29. To facilitate further discussions, LD and HKCA would classify site vehicles and mobile plants into three types: those that would not need CCTV, those on which CCTV could be readily installed and those on which the installation of CCTV would involve resolution of technical issues. As Transport Department was considering CCTV for heavy vehicles used on public roads, these vehicles would not be excluded for the time being.

Further Actions

30. The following further actions were agreed –

- (a) LD would consider strengthening its staff establishment for taking enforcement actions in relation to the provisions of the Construction Sites (Safety) Regulation on prevention of fall from height so as to cope with the additional workload resulting from the ageing of buildings and the Mandatory Building Inspection Scheme being taken forward by BD;

- (b) BD would continue to take forward the MWCS;
- (c) TF-PMC would continue to consider the possibility of PMC's acquiring horizontal props for shared use by workers executing RMAA works on external walls;
- (d) An informal task force would be formed to consider how site safety could be tackled from the behavioural perspective; and
- (e) TF-PMC would continue to consider ways for raising the awareness of individual building owners on their responsibilities in relation to safety of works executed on their premises.

**CIC Secretariat
November 2007**

Committee on Construction Site Safety

**3rd Meeting held at 2:30 pm on 11 October 2007
in Conference Room 1201, Murray Building**

Record of Attendance

Present

Mr Thomas Kwok	Chairman
Mr James Blake	
Mr CHOI Chun-wa	
Mr Thomas Ho	
Mr WAN Koon-sun	
Mr H W Cheung	Director of Buildings
Mr C K Lau	Real Estate Developers Association of Hong Kong
Mr Anthony Chan	Hong Kong Construction Association
Mr C K Tsang	Hong Kong Federation of Electrical and Mechanical Contractors
Mr PANG Long	Hong Kong Construction Site Workers General Union
Mr Charles Wong	Construction Industry Training Authority
Dr Louisa Wong	Occupational Safety and Health Council
Mr Dominic Lam	Hong Kong Federation of Insurers
Mr YU Koon-ching	Hong Kong Safety Supervisors Association
Mr S M Leung	Buildings Department
Dr Alex Li	Development Bureau
Mrs Terry Ching	Housing Department
Mr S H Tso	Labour Department

Absent with apologies

Prof J M Ko

Mr Edgar Kwan

Mr Philip Chan

Mr NG Kwok-kwan

Prof Francis Wong

Mr William Siu

Mr Ros Lam

Hong Kong Institute of Architects

Hong Kong Construction Industry
Employees' General Union

Hong Kong Polytechnic University

Hong Kong Bar-Bending Contractors
Association

Office of the Commissioner of Insurance

In attendance

Construction Industry Council Secretariat

Mr K H Tao

Chief Assistant Secretary for Development
(Works) 1

Mr Solomon Wong

Assistant Secretary for Development
(Works) Public Works Systems
Administration 1