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Panel on Manpower

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 21 January 2010**

Safety in the use of tower cranes on construction sites

Purpose

This paper summarizes past discussions by the Panel on Manpower (the Panel) on safety in the use of tower cranes in construction sites.

Background

2. Tower cranes are widely used for lifting operations in the construction industry. The use of such heavy construction equipment could pose risks to workers on site as well as the general public if the operations are not conducted in a safe and proper manner. Tower cranes have in the past contributed to a number of serious accidents resulting in property damages, bodily injuries and even deaths.

3. On 10 July 2007, a tower crane collapsed at a demolition site in Causeway Bay during height-alteration operation, resulting in the death of two workers and injury of five others. The accident aroused major public concern about the safety of the use of tower cranes. It also prompted the construction industry and the Administration to work together to explore ways to further enhance safety in the use of tower cranes, particularly during the more hazardous operations of erection, height-alteration and dismantling of the equipment.

Legislation and code of practice on the safe use of tower cranes

4. According to section 6A of the Factories and Industrial Undertakings Ordinance (FIUO) (Cap. 59), a proprietor shall provide and maintain a system

of work that is safe and without risks to health. The proprietor should provide such information, instruction, training and supervision as is necessary, to ensure the health and safety at work of the employees. Any proprietor who fails to do so is liable to a fine of \$500,000.

5. Under sections 5, 7A and 19 of the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations (Cap. 59J), an owner shall ensure that a lifting appliance -

- (a) is not used unless it has been thoroughly examined by a competent examiner in the preceding 12 months;
- (b) has been further tested and thoroughly examined by a competent examiner after substantial repair; and
- (c) has been inspected within the preceding seven days by a competent person. Any owner who fails to do so is liable to a maximum fine of \$200,000.

6. According to the Administration, the Labour Department (LD) had issued the Code of Practice for Safe Use of Tower Cranes (the Code), the Guidance Notes on Inspection, Thorough Examination and Testing of Lifting Appliances and Lifting Gear and A Guide to the Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations provide practical information and suggestions to facilitate compliance with the relevant safety legislation. Although failure to observe any guidance in the codes of practice issued under section 7A of FIUO is not in itself an offence, such failure may be taken by a court in criminal proceedings as a relevant factor in determining culpability.

Deliberations of the Panel on Manpower

7. The Panel discussed the subject of safety in the use of tower cranes on construction sites at its meeting on 8 July 2008. The discussions are summarized in the following paragraphs.

8. Some members queried whether it was sufficient to rely on self-regulation of the construction industry to voluntarily adopt the recommendations set out in the Guidelines on Safety of Tower Cranes (the Guidelines) published by the Construction Industry Council (CIC) which had no legal effect. They asked whether the Administration would introduce subsidiary legislation to give effect to the recommended safety improvement measures.

9. The Administration responded that LD would step up inspections on tower crane operations and consider the issuance of suspension notices for non-compliance with the Guidelines and where there was an imminent risk of death or serious bodily injury. LD would review the situation in six to twelve months' time and thereby consider whether any refinement to the current regulatory framework was necessary or the recommended measures should be incorporated into the Code for safety use of tower cranes. The Administration stressed that the issuance of suspension notices would have a deterrent effect, as work of a construction site would need to be temporarily suspended upon receipt of such notices.

10. Some members asked whether routine inspections were carried out by LD on tower crane operations and whether such inspections would be arranged in accordance with the track record of contractors.

11. The Administration advised that in 2007, special enforcement campaigns were launched by LD in addition to routine inspections nearly every month according to the safety performance and number of occupational injuries of the relevant trades. Apart from construction safety, the enforcement campaigns also covered safety issues such as safe operation of vehicles and mobile plant on construction sites, safety in wholesale and retail trade, catering safety, cargo and container handling safety.

12. Some members enquired whether the recommended measures of the Guidelines would be able to forestall accident at construction sites similar to that which occurred in July 2007 and enhance competence of specialist contractors and working crew on safety use of tower cranes.

13. The Administration responded that the Guidelines comprised groups of measures covering details of the full process involved in tower crane operations from pre-erection to installation, operation and maintenance. LD had studied the causes of local tower crane accidents and those which occurred in other places. To forestall collapse of tower crane, apart from ensuring safety in the handling of loads, it was also important to ensure safety of other procedures such as installation and maintenance of crane base. The Guidelines had specified the detailed requirements on the qualification and experience of competent persons and workmen. For example, specialist contractors should employ competent persons and workmen with appropriate qualifications, training and experience for performing all operations on tower cranes. The competent persons referred to were those who possessed 10 years of relevant experience and registered as a skilled worker of the relevant trade under the Construction Workers Registration Ordinance (Cap. 583).

14. The Administration supplemented that the Guidelines recommended that principal contractors should engage specialist contractors registered on the specialty of "erection, dismantling and climbing" of the tower crane trade of the

Voluntary Subcontractor Registration Scheme administered by CIC to execute tower crane operations. The principal contractor should also appoint a supervising engineer with specific qualifications, experience and competence to control, monitor and supervise operations on tower cranes.

15. Some members queried whether there were adequate regular inspections at construction sites and sufficient number of occupational safety officers to carry out routine operations. They also asked whether legislation would be introduced to enforce the recommended practices of the Guidelines such as the appointment of supervising engineer.

16. The Administration advised that in 2007, a total of 112 000 inspections had been carried out at working places territory-wide of which some 45 800 were carried out at construction sites giving rise to the issuance of some 13 000 notices. LD would strengthen intelligence gathering and re-engineer manpower resources so as to step up enforcement against non-compliance of occupational safety requirements. While routine inspections would be carried out regional-wide, LD's Central Inspection Team had been mobilized to instigate special investigations against complaints of hazardous working conditions launched by workers.

Relevant papers

17. Members may wish to refer to the following minutes and papers for further details -

- (a) minutes of meeting of the Panel on Manpower on 8 July 2008 [LC Paper No. CB(2)2755/07-08]; and
- (b) Administration's paper entitled "Safety in the Use of Tower Cranes on Construction Sites" for the meeting of the Panel on Manpower on 8 July 2008 [LC Paper No. CB(2)2480/07-08(01)].

18. The above minutes and papers are also available on the website of the Legislative Council (<http://www.legco.gov.hk>).