For discussion on
17 November 2011

Legislative Council Panel on Manpower

Hong Kong's Safety Performance in the First Half of 2011 and Regulatory Framework for Construction Sector

Purpose

This paper informs Members of the safety performance of Hong Kong's construction industry in the first half of 2011 and, as earlier requested by the Panel, briefs Members on the regulatory framework, and our strategy on how to forestall accidents in the industry.

Safety Performance

Industrial Accidents in All Sectors

2. The number of industrial accidents for all sectors in the first half of 2011 was 6 436, representing a drop of 2.0% over 6 566 in the same period of 2010. The accident rate per 1 000 workers decreased by 4.6%, from 23.4 to 22.3. **Table 1** provides information on industrial accidents in all sectors since 2006.

Table 1 – Industrial Accidents in All Sectors

	2006	**2007**	**2008**	**2009**	**2010**	**2010 1st half**	**2011 1st half**
Fatal	26	25	24	21	18	9	13 (+ 44.4%)
Non-fatal	17 260	16 092	14 908	13 579	13 997	6 557	6 423 (-2.0%)
Total	17 286	16 117	14 932	13 600	14 015	6 566	6 436 (-2.0%)
Accident Rate per 1 000 workers	31.5	29.3	27.2	24.6	24.9	23.4	22.3 (-4.6%)

(Note: Figures in brackets denote % change over the previous year.)

Industrial Accidents in the Construction Industry

3. Of the 6 436 industrial accidents in the first half of 2011, 1 404 occurred in the construction industry, with an accident rate (per 1 000 workers) of 47.8, representing a rise of 9.7% and 2.2% respectively compared with the same period of 2010. The number of industrial fatalities increased from 5 to 8 when compared with the same period of 2010 (**Table 2** refers). The types of fatal accidents were "fall of person from height" (3 cases), "striking against or struck by moving object" (2 cases), "struck by falling object" (2 cases) and "drowning" (1 case). A detailed breakdown of all industrial accidents in the construction industry by types of accidents is at **Annex 1**.

Table 2 – Industrial Accidents in the Construction Industry

	2006	**2007**	**2008**	**2009**	**2010**	**2010 1st half**	**2011 1st half**
Fatal	16	19	20	19	9	5	8 (+60.0%)
Non-fatal	3 384	3 023	3 013	2 736	2 875	1 275	1 396 (+9.5%)
Total	3 400	3 042	3 033	2 755	2 884	1 280	1 404 (+9.7%)
Accident Rate per 1 000 workers	64.3	60.6	61.4	54.6	52.1	46.8	47.8 (+2.2%)

(Note: Figures in brackets denote % change over the previous year.)

4. In the first half of 2011, the number of accidents in new works sites[1] recorded an increase of 12.6% from 680 to 766; repair, maintenance, alteration & addition (RMAA) works sites[2] recorded an increase of 6.3% from 600 to 638, when compared with the corresponding period of 2010 (see **Table 3**).

---

[1] New Works refer to those construction sites where new development or re-development works are being carried out. These include, but do not limit to, building, piling, demolition, site formation and civil engineers works.

[2] RMAA works refer to those minor works such as construction projects for village-type houses in the New Territories, minor alternations, repairs, maintenance and interior decoration of existing buildings.

Table 3 – Industrial Accidents in the Construction Industry – Analysis by type of works

	2006	**2007**	**2008**	**2009**	**2010**	**2010 1st half**	**2011 1st half**
New Works	1 703 (50.1%)	1 518 (49.9%)	1 476 (48.7%)	1 376 (49.9%)	1 462 (50.7%)	680 (53.1%)	766 (54.6%)
RMAA	1 697 (49.9%)	1 524 (50.1%)	1 557 (51.3%)	1 379 (50.1%)	1 422 (49.3%)	600 (46.9%)	638 (45.4%)
Total	3 400	3 042	3 033	2 755	2 884	1 280	1 404

(Note: Figures in brackets represent the percentage to total.)

Challenges

5. We have the following observations on the safety performance in the construction industry:

(a) in the past decade (between 2001 and 2010), there has been a continuous decline in the number of industrial accidents and accident rate (per 1 000 workers) in all industrial sectors, including the construction sector. During this period, the number of industrial accidents in the construction sector dropped from 9 206 to 2 884 (a decline of 68.7%) and the accident rate (per 1 000 workers) from 114.6 to 52.1 (a decline of 54.5%);

(b) owing to the nature of the construction industry which involves activities of higher risks, the industry has recorded the highest number of fatalities and accident rate among all industries. The commencement of a number of major infrastructure projects, against the backdrop of a booming construction industry, poses a challenge in the coming years; and

(c) the RMAA sub-sector accounts for about half of the accidents in the construction sector. The growth in RMAA works as a result of the mandatory requirements for inspection of old building in the coming years will be another challenge.

Regulatory Framework

6. We set out below the framework for regulating construction safety as requested by the Panel at a previous meeting.

7. Statutory provisions governing work safety on construction sites are set out under the Factories and Industrial Undertakings Ordinance (FIUO) (Cap. 59), the Occupational Safety and Health Ordinance (OSHO) (Cap. 509) and their subsidiary legislation. The Ordinances and subsidiary legislation comprise both prescriptive and goal-setting types of legislation to address the safety and health of those at work in the construction industry. Specifically:

(a) under the prescriptive approach, specific safety and health standards and means of compliance are precisely laid down to deal with designated high-risk construction processes and use of hazardous construction machineries/equipments; and

(b) under the goal-setting approach, safety goals are set to allow alternative ways of compliance, providing for flexibility and responsiveness to evolving technologies and changing best practices.

8. The current regulatory regime under the FIUO and OSHO has the following main features:

(a) it prescribes the general duties of an employer (including a contractor) to ensure, so far as reasonably practicable, the safety and health of employees at work, including the provision of safe workplaces, plants and systems of work, as well as the necessary information, instruction, training and supervision. Also, employers/contractors are required to assess risks in their workplaces and formulate appropriate safety measures to cater for complicated and vastly different working environments, job types and work procedures;

(b) it provides for the reporting of accidents resulting in death or incapacity, and dangerous occurrences at the workplaces;

(c) it mandates the provision of basic safety training for all people who work on construction sites;

(d) the Commissioner for Labour (C for L) is empowered, apart from initiating prosecutions, to issue improvement notices (INs) and suspension notices (SNs), the latter against any activity at the workplace which creates, or is likely to create, an imminent risk of death or serious bodily injury to workers; and

(e) C for L is empowered to hold inquiries into occupational accidents and to make regulations and provide practical guidance to facilitate compliance with the relevant safety and health legislation.

9. Various pieces of subsidiary legislation have been made under the FIUO and OSHO to regulate specific work activities and processes (including the use of plants and machineries on construction sites) and provide for safety management systems and registration of safety officers for administering occupational safety and health. These include:

(a) the Construction Sites (Safety) Regulations;

(b) the Factories & Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations;

(c) the Factories & Industrial Undertakings (Suspended Working Platforms) Regulation;

(d) the Factories & Industrial Undertakings (Confined Spaces) Regulation;

(e) the Factories & Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations; and

(f) the Factories & Industrial Undertakings (Safety Management) Regulation.

The main provisions of these pieces of legislation are summarised at **Annex 2**.

Strategy on Industrial Safety

10. Safety and health at work is a shared responsibility of all the parties concerned, including employers, contractors, relevant professionals, workers and the Government. Our role is to ensure that:

(a) employers should be aware of their responsibility of managing the risks in their work processes; and

(b) workers should be aware of the importance of co-operating fully with their employers and not risking their own lives and those of others at work.

11. In light of this role, the Labour Department (LD) seeks to inculcate a safety culture in Hong Kong's workplaces through a multifarious strategy of legislation and enforcement; publicity and promotion; as well as education and training.

Legislation and Enforcement

12. Enforcement is important in ensuring compliance with safety and health legislation by those establishments where self-regulation is not working. LD conducts surprise workplace inspections, including planned inspections to construction sites, and special enforcement campaigns targeting specific high risk activities, such as work-at-height, lifting operations and use of electricity. Under our risk-based inspection system, we take into account such factors as potential site hazards, the scale of works, the nature of activities or processes in progress, and safety performance records. With regard to RMAA works, LD has established a referral mechanism with our partners, including the Housing Department, Hong Kong Housing Society, the Urban Renewal Authority and property management companies.

13. Where breaches of the law or imminent risks are identified, LD will take immediate enforcement actions, including the issue of INs and SNs. Prosecution will be initiated, if a breach of safety legislation has significant potential for harm, regardless of whether it has caused an injury.

Publicity and Promotion

14. To promote safety awareness among employers and employees of the construction industry, LD has, since 1999, launched annually the Construction Industry Safety Award Scheme. The Scheme features a territory-wide competition on safety and health performance, safety quizzes, radio programmes and award presentation ceremony, to disseminate successful experience and good practices of award winning construction sites to all industry stakeholders.

15. Since "fall of person from height" has been a major source of serious accidents in the construction industry, LD has launched an on-going publicity campaign targeting RMAA works, to arouse safety awareness of work-at-height. A wide range of publicity and promotional activities have been conducted under the campaign, including:

(a) broadcasting safety and health messages through television, radio, mobile media;

(b) promoting safety awareness among contractors, employers and employees through roving exhibitions, feature articles in newspapers, displaying posters and banners throughout the territory, mailing promotional items to contractors engaged in work-at-height activities and RMAA works;

(c) publishing guides to work-at-height safety and casebooks based on actual fatal accidents, including those related to RMAA works and truss-out bamboo scaffolding works, highlighting the common causes of the accidents and preventive measures; and

(d) organising, in conjunction with the Occupational Safety and Health Council (OSHC), District Councils, District Safe and Healthy Communities and the property management sector, publicity activities to promulgate work-at-height and RMAA works safety at the district level and promote safety awareness in the property management sector and among property owners.

Education and Training

16. Proper training is an important element in improving employees' safety and health knowledge, internalising their safety awareness and changing their unsafe practices at work. Apart from mandating basic safety training for all people working at construction sites, workers engaged in hazardous work processes involving confined spaces, gas welding and operation of risky machineries (like cranes, suspended working platforms and loadshifting machineries) are required by law to undergo compulsory safety training.

17. LD also launches safety seminars and talks with a view to inculcating work-at-height safety awareness, knowledge and skills among contractors and workers. This includes organising safety seminars and talks for RMAA contractors engaged by various public sector bodies and government departments.

Partnership with Other Stakeholders

18. Apart from jointly organising safety publicity activities, LD works in close collaboration with OSHC in launching a number of sponsorship schemes in the past few years, to help small and medium enterprises (SMEs) in the construction industry to build up their safety awareness and change their unsafe work habits. The schemes concerning construction safety include:

(a) Fall arresting equipment: OSHC provides subsidy of up to $4,000 to SMEs to purchase T-shaped metal brackets as well as fall arresting equipment for RMAA works, including portable anchor device, safety harness, fall arresting device and independent lifeline;

(b) Safe working in confined spaces: OSHC offers a maximum grant of $10,000 for SMEs to purchase gas testing equipment, or offers financial assistance of up to $3,000 (for up to three times a year) for conducting risk assessment; and

(c) Reversing video device: eligible SMEs may receive a subsidy of up to $2,500 to install the reversing video device on heavy vehicles on construction sites.

19. LD also works closely with the Construction Industry Council (CIC) in publishing practical safety guidelines for the industry on safety matters, such as: use of tower cranes, site vehicles and mobile plants, working in hot weather, lift shaft works as well as fabrication of steel reinforcement cages for bored piling works. We are currently working with CIC to develop further practical guidelines for enhancing safety of the industry in the following areas:

(a) lift installation and lift maintenance works;

(b) RMAA works;

(d) safety training programmes for construction personnel;

(e) construction design management principles;

(f) work sequences and method statements of typical construction activities; and

(g) waste disposal at construction sites.

Recent Initiatives

20. In the light of the challenges described in paragraph 5, we have further enhanced our systematic enforcement and preventive measures, in addition to the on-going efforts under the strategy set out in paragraphs 10 to 19.

Enhancement of enforcement measures

21. In first three quarters of 2011, we have conducted 42 252 inspections to construction sites and, as a result, issued 10 156 warnings and 722 SNs/INs. We have initiated 895 prosecutions against breaches of safety legislation, of which 502 were related to unsafe work-at-height. In addition to planned inspections, LD has during that period stepped up its special enforcement efforts by launching four territory-wide operations focusing on new works safety, RMAA works safety, temporary platforms/gangways and electrical safety. Under these special operations, we inspected 5 828 workplaces and issued 1 669 warnings (as compared to 5 189 workplaces and 1 413 warnings in the same period of 2010). We also issued 192 SNs/INs (an increase by 26% over 2010) and initiated a total of 151 prosecutions (more or less the same as 2010). LD has also stepped up patrols and inspections of RMAA works sites during non-office hours (i.e. evenings and during holidays) to deter unsafe work practices.

22. Noting the increase in industrial fatalities in the construction caused by "falls of persons from height", "struck by falling objects", "unsafe lifting operations" and "electrocution", we will launch further special enforcement operations targeting the safety of new works and RMAA works toward the end of 2011.

Enhancement of preventive measures

23. LD will further enhance co-operation with various stakeholders (e.g. contractors, project management teams and relevant government departments/project clients) to closely monitor the safety and health performance of major infrastructure projects. LD participates in regular site safety management meetings and safety walks of these projects, and take rigorous enforcement actions to ensure that safe systems of work are in place; offers advice to relevant works departments/project clients at the planning stage to ensure due consideration of safety and health requirements from the design stage to subsequent stage of project implementation and delivery. In collaboration with OSHC and other stakeholders, LD organised a seminar cum workshop in September 2011 for contractors and relevant parties to share their experiences and practices in enhancing occupational safety of large scale infrastructure projects. With the progress of these projects, more seminars of this nature are in the pipeline.

24. In August 2011, LD launched a "Work Safety Alert" on its website to help raise the safety awareness of employers, contractors and workers. The Alert summarises recent fatal and serious work accidents, and highlights general safety precautionary measures. We will collate cases to highlight proper precautionary measures and organise a large scale seminar to share the results of the analysis with relevant interested parties early next year.

25. We will regularly review the regulatory framework and strategy on industrial safety in the light of social, economic and technical developments as well as the trend of occupational accidents to provide necessary protection to construction workers.

Advice Sought

26. Members are invited to note the content of this paper.

Labour and Welfare Bureau
Labour Department
November 2011

Annex 1
附件1

Industrial Accidents in Construction Industry
in 2009 / 2010 and 1st Half of 2010 / 1st Half of 2011
- analysed by Type of Accident -

二零零九年 / 二零一零年 及 二零一零年上半年 / 二零一一年上半年
建造業之工業意外個案以意外類別分析

Type of Accident 意外類別		2009 二零零九年		2010 二零一零年		1st Half of 2010 二零一零年上半年		1st Half of 2011 二零一一年上半年	
Trapped in or between objects	受困於物件之內或物件之間	93		85		35		46	
Injured whilst lifting or carrying	提舉或搬運物件時受傷	576		546		248		286	
Slip, trip or fall on same level	滑倒、絆倒或在同一高度跌倒	513		573		243		293	
Fall of person from height	人體從高處墮下	397	(15)	406	(6)	178	(3)	188	(3)
Striking against fixed or stationary object	與固定或不動的物件碰撞	219		302		129		120	
Striking against or struck by moving object	被移動物件或與移動物件碰撞	424	(2)	442		208		218	(2)
Stepping on object	踏在物件上	19		27		12		16	
Exposure to or contact with harmful substance	暴露於有害物質中或接觸有害物質	8		7		3		9	
Contact with electricity or electric discharge	觸電或接觸放出的電流	5		7	(1)	4	(1)	2	
Trapped by collapsing or overturning object	受困於倒塌或翻側的物件	0		1		1		2	
Struck by falling object	遭墮下的物件撞擊	87	(1)	75		33		28	(2)
Struck by moving vehicle	遭移動中的車輛撞倒	17		7		6		8	
Contact with moving machinery or object being machined	觸及開動中的機器或觸及以機器製造中的物件	199		245	(2)	99	(1)	93	
Drowning	遇溺	1	(1)	0		0		1	(1)
Exposure to fire	火警燒傷	8		5		2		10	
Exposure to explosion	爆炸受傷	4		3		4		2	
Injured by hand tool	被手工具所傷	137		102		50		47	
Injured by fall of ground	泥土傾瀉受傷	1		0		0		0	
Asphyxiation	窒息	0		0		0		0	
Contact with hot surface or substance	觸及灼熱表面或物質	21		20		15		10	
Injured by animal	被動物所傷	0		0		0		1	
Injured in workplace violence	於工作場所暴力事件中受傷	0		0		0		0	
Others	其他類別	26		31		10		24	
Total	總計	2 755	(19)	2 884	(9)	1 280	(5)	1 404	(8)

Notes:
1. Industrial accidents refer to injuries and deaths arising from industrial activities in industrial undertakings as defined under the Factories and Industrial Undertakings Ordinance.
2. Figures in brackets denote the number of fatalities.

註釋:
1. 工業意外是指在《工廠及工業經營條例》所界定的工業經營內發生的受傷或死亡意外，而這些意外是因工業活動而引致的。
2. 括號內的數字顯示死亡人數。

Annex 2

Legislative Framework Regulating Construction Safety

Construction Sites (Safety) Regulations

- Stipulate safety requirements regarding use of hoists, work-at-height, excavations, use of electricity and machineries, personal protective equipments, as well as the provision of first aid and welfare facilities. Impose safety obligations on both principal contractors and subcontractors.

- Require contractors to take adequate steps (e.g., provision of suitable working platform, safe access and egress, as well as proper fencing) to prevent any person from falling from a height of 2 metres or more, and ensure the safety in the design, construction and maintenance of any scaffold, ladder or other means of support.

- Require contractors to adopt a risk assessment approach by identifying the hazardous conditions of persons working at height, rectifying these hazardous conditions and safeguarding persons working at a height against all hazardous conditions.

(Lifting Appliances and Lifting Gear) Regulation

- Regulate the use of lifting appliances and lifting gear in an industrial undertaking.

- Stipulate requirements in respect of the construction, test and examination, marking of safe working load for lifting appliances and lifting gear.

- Specify the safety standards in the aspects of operation, erection, alteration and dismantling of cranes, use of cranes in bad weather, multiple lifting, securing of loads, carrying of persons by means of lifting appliances and competency of operators.

(Suspended Working Platforms) Regulation

- Regulate the construction, safety devices, test and examination of suspended working platforms.

- Stipulate the safety precautions to be taken in respect of the erection, alteration and dismantling of suspended working platforms as well as its use in bad weather conditions, and competency of operators.

(Confined Spaces) Regulation

- Provide for safety measures for work in confined spaces.

- Require proprietors/contractors to take safety measures, including appointment of competent persons to conduct risk assessments and certified workers to enter or work in confined spaces, implementation of safety precautions before and during work in confined space, and formulation of proper contingency procedures.

(Safety Officers and Safety Supervisors) Regulations

- Require the employment of safety personnel for providing assistance to contractors to enhance safety and health conditions on construction sites.

- Impose on safety officers duties in advising proprietors on the implementation of safety management system in workplaces.

- Stimulate the requirement for continuous professional development for the purpose of renewal or revalidation of registration of safety officers.

(Safety Management) Regulation

- Require contractors to take ownership for ensuring that the necessary safety management system is developed, implemented and maintained on their construction sites.

- Require contractors to strive for continuous improvement in OSH conditions in their workplaces through regular safety audits and safety reviews.