

LCQ22: Work safety in confined spaces

Following is a question by the Hon Chan Siu-hung and a written reply by the Secretary for Labour and Welfare, Dr Law Chi-kwong, in the Legislative Council today (January 19):

Question:

On November 18 and December 22 last year, a fatal industrial accident involving works carried out in sewer manholes occurred in Siu Ho Wan Sewage Treatment Works and a construction site at Chek Lap Kok respectively, causing the death of three workers and injuries to a number of workers. In this connection, will the Government inform this Council:

- (1) Of the progress of the investigations made into the two aforesaid industrial accidents; the improvement measures in place to prevent the recurrence of similar accidents;
- (2) Whether the relevant government departments have conducted regular reviews of the code of practice on work safety in confined spaces and regular inspections of sites with confined spaces to ensure work safety; if so, of the details; if not, the reasons for that;
- (3) Whether it will step up training for those who need to work in confined spaces with a view to ensuring their full understanding and compliance with safety procedures as well as enhancing their safety awareness; if so, of the details; and
- (4) Whether it has considered assisting the industry in adopting advanced technologies and equipment, such as the use of unmanned aircraft systems and 3D scanning detectors to gain an understanding of the condition inside confined spaces, and even deploying machines in place of workers to enter and work in confined spaces, so as to ensure industrial safety?

Reply:

President,

The Labour Department (LD) is highly concerned about the two fatal industrial accidents that happened recently in manholes concerning sewer pipe maintenance. The two accidents caused the death of three workers and several workers were sent to the hospital. The LD is deeply saddened by the accidents and once again expresses our deepest sympathy to the bereaved families.

Having consulted the Development Bureau (DEVB), my consolidated reply to the Member's question is as follows:

- (1) Upon notification of the two accidents, the LD officers immediately commenced on-site investigation and will complete the investigation as soon as possible. According to the information currently available, the workers

were preliminarily suspected to have inhaled hazardous gases at work. The LD is following up on the accidents seriously. Shortly after the accidents, the LD issued suspension notices to stop the works concerned. The duty holders need to submit safe method statements for the LD's consideration and the work can only be resumed upon the LD's permission. If there is adequate evidence, the LD will take out prosecution against those having violated the occupational safety and health (OSH) legislation.

Shortly after the accidents, the LD convened urgent meetings with the Drainage Services Department (DSD) and Airport Authority Hong Kong (AAHK) to reiterate the safety requirements for confined space works. The LD also commenced special enforcement operations targeting drainage works under the DSD and the AAHK. In addition, the LD will step up surprise inspections to drainage works and enhance publicity on necessary safety measures to be taken when conducting such works to avoid recurrence of similar accidents.

The DSD has also set up an Independent Investigation Team to investigate the accident at Siu Ho Wan Sewage Treatment Works and made recommendations on improvement measures to enhance the safety of the relevant work. In response to the two fatal industrial accidents, the DEVB and the Construction Industry Council (CIC) have issued safety alerts to remind Works Departments and the construction industry respectively to pay close attention to the implementation of safety measures in confined space works to prevent recurrence of similar accidents.

(2) The code of practice and guidelines issued by the LD clearly set out the risk management measures to be taken for works in confined spaces. Such measures include carrying out a risk assessment, implementing effectively a safe system of work devised on the basis of the risk assessment results, use of approved breathing apparatus and safety harness, formulating emergency procedures, etc. The LD reviews the code of practice and guidelines from time to time, and makes revisions where necessary. In light of the two recent manhole accidents, the LD is arranging to meet with key stakeholders of confined space work to explore further refinement of the aforesaid code of practice and guidelines.

Moreover, the LD carries out surprise inspections to workplaces carrying out confined space work from time to time to ensure workers' OSH is safeguarded. During inspections, the LD officers check the relevant work processes and equipment including whether a risk assessment has been carried out and corresponding risk control measures have been implemented, whether the workers have met the relevant training and working experience requirements, whether they are wearing approved breathing apparatus and suitable safety harness when conducting underground pipework, etc.

(3) The Factories and Industrial Undertakings (Confined Spaces) Regulation (the Regulation) stipulates that competent persons and certified workers who carry out work in confined spaces shall undergo and complete the training courses recognised by the LD. The course content covers requirements of relevant OSH legislation, common confined space hazards, emergency procedures, etc. Through different teaching methods e.g. accident case

analysis and discussion, demonstration and practice on the use of safety equipment, etc., the trainees can better understand and grasp the course content. In addition, the Regulation stipulates that all competent persons and certified workers are required to take a revalidation course every three years, so that they will refresh and update their knowledge of working in confined spaces on a regular basis.

The LD reviews the content and teaching methods of the aforesaid courses from time to time. In 2019, the LD enhanced the courses by adding case analysis during which trainees can discuss serious accident cases, strengthening practical training such as the use of safety harness, lifeline, tripod, approved breathing apparatus and gas monitoring device, and requiring trainees to prepare risk assessment reports and permit-to-work certificates, etc. The enhancement can enhance workers' knowledge of common risks in confined spaces and their abilities to eliminate such risks more effectively.

In addition, the LD, the CIC and the DEVB jointly hosted a thematic construction safety webinar towards the end of 2021 to reinvigorate the stakeholders of construction industry on the potential hazards related to confined spaces work in connection with manholes or underground pipework and to enhance their safety knowledge on the aforementioned confined spaces work. The webinar received overwhelming responses with nearly 4 000 participants from the construction industry.

(4) The guideline "Prevention of Gas Poisoning in Drainage Work" issued by the LD recommends that responsible persons of drainage works should, so far as reasonably practicable, use other practical work methods to avoid requiring workers to work inside the drainage. The LD noticed that the drainage work trade has started using remote control photography equipment years ago to take the place of workers for inspecting pipe conditions inside underground sewers in order to mitigate the risk of workers working at confined spaces such as drainage. We will continue to keep in view the development of new technologies and disseminate relevant information to the stakeholders, with a view to encouraging them to adopt suitable technologies to protect their workers and prevent incidents.

In addition, the Government has established the Construction Innovation and Technology Fund (CITF) in October 2018 to encourage a wider adoption of innovative construction methods and new technologies in the construction industry with a view to promoting productivity, improving construction quality, uplifting site safety and enhancing environmental performance. The Pre-approved List of the CITF includes relevant items relating to works in confined space, including ultra-wide band wireless positioning safety system, confined spaces drone, etc. They can help grasp or eliminate the risks of frontline workers working in confined spaces.