



## TWO WORKERS DIED AFTER FOUND UNCONSCIOUS INSIDE THE UNDERGROUND PIPEWORK

On 24 September 2023, two workers were found unconscious in the underground pipework in a construction site at Tsim Sha Tsui Austin Road West, and they were certified dead after sending to the hospital. The Construction Industry Council (CIC) would like to deliver this safety message for your attention. It would be appreciated if you could distribute the message below to your fellow members, relevant personnel or other industry stakeholders where appropriate. Thank you very much.

### Common Accidents

1. Inhalation of hazardous gas, fume, vapour or lack of oxygen, causing workers working in confined spaces to lose consciousness or suffocate.
2. No provision or not maintaining well ventilation for removal of gases or vapour heavier than air and for effective air circulation.
3. Lack of continuous air monitoring.
4. The worker did not use approved respiratory equipment and other required personal protective equipment.
5. Lack of proper management system to ensure that the standby person stations outside the confined space for communication and emergency response.



"Confined space" means any place in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk

### Critical Control Measures

1. Before working in a confined space, a competent person shall be appointed to carry out risk assessment and make recommendations. After issuance of permit-to-work certificate, only certified workers shall enter or work in confined spaces.
2. Before entering the confined space, ensure that the confined space has to be sufficiently cooled and ventilated, and effective measures are taken to prevent ingress or in-rush of hazardous gas, vapour, dust, fume or free flowing solid or liquid to the confined space.
3. Perform continuous air monitoring to ensure that the atmospheric environment meets the required standard throughout the work. Each group of workers could individually bring at least one portable air monitoring equipment to conduct continuous air monitoring during work.
4. Adopt a management system to the ingress and egress of confined space, regular inspection shall be conducted to ensure the works are carried out under the recommendations stated in permit-to-work certificate.
5. Do not allow workers entering a confined space alone or working inside a confined space when there is no standby person and rescue personnel support.
6. Ensure that any person entering or remaining in that confined space properly wears an approved breathing apparatus with suitable personal protective equipment.
7. Implement effective Design for Safety Management System, fully consider the actual situation prior to commencement of work, and eliminate or reduce the major risks of confined spaces during construction.
8. Adopt appropriate Smart Site Safety System to strengthen the monitoring system to confined spaces, including installation of smart locks, AI video cameras and real-time gas detectors in the confined spaces, and connect them to the communication platform of project management for real-time monitoring of the conditions for confined spaces.



Please refer to the Safety Video – Confined Space Works at CIC website



Life First – Walk the Talk – Smart Site Safety System was held on 15 Mar 2023. Please watch replay of the Webinar at CIC website



## SAFETY ROLES AND RESPONSIBILITIES OF KEY STAKEHOLDERS IN THE HONG KONG CONSTRUCTION INDUSTRY

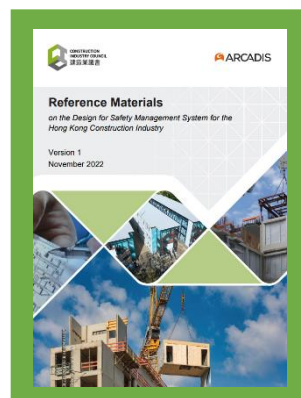
What if all stakeholders can act together and take one step further to fulfill their roles and responsibilities, can similar accident be avoided?

- In the design stage, designers should review or modify the designs with relevant stakeholders to reduce the need to work in confined spaces.
- During the construction stage, work team should plan, manage and monitor their confined space work properly. In case of workers are required to enter any underground pipe works which have been classified as confined spaces, shall ensure that all pipes and supply lines, which are liable to cause danger, are completely blanked off, and effective steps to prevent an ingress to the confined space of hazardous gas, vapour, dust, fume, in-rush of mud, water or other free flowing liquids and solids are taken.
- Work team must not begin confined space work unless reasonable steps have been taken to prevent access by unauthorised persons to the confined spaces and adopt a management system to the ingress and egress of confined spaces.
- Workers should follow the developed safe working procedures, in case identifying any changes in the construction process, report it to their supervisors and take action against it immediately.

### Reference information for sharing



Reference Material on Safety Roles and Responsibilities of Key Stakeholders in the Hong Kong Construction Industry



Reference Material on the Design for Safety Management System for the Hong Kong Construction Industry



Poster  
Safety Measures - Confined Space



### Disclaimer

This message is not intended to constitute any professional advice on these or any other subjects. The CIC (including its members and employees) will not accept responsibility for any consequences resulting from the use of or failure to use this message. For enquiries, please contact 2100 9000.