



A WORKER CRUSHED TO DEATH BY A TOPPLED PRECAST CONCRETE ELEMENT IN A CONSTRUCTION SITE AT HUNG SHUI KIU

On 21 September 2023, a worker was crushed to death by a toppled precast concrete element in a construction site at Hung Shui Kiu. 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. Insufficient management and barricade to the fatal zone.
2. Failure to arrange sufficient trained personnel to carry out lifting operation.
3. Failure to use the proper lifting gears and rigging methods.
4. Prior to the commencement of work, no thorough risk assessment had been carried out for transportation, storage and handling of precast concrete elements to identify all the potential hazards associated with the work.
5. Necessary safety information, instructions, training and supervision were not provided to the workers concerned.
6. Insufficient coordination made with the material suppliers for the transportation arrangement.



Critical Control Measures

Transportation, Storage and Handling of Precast Concrete Elements

1. A safe system of work for transportation, storage and handling of precast concrete elements shall be provided and maintained to ensure the safety and health of workers. The safe system of work should include but not limited to the following:
 - (a) Conduct task-specific risk assessments to identify all potential hazards associated with transportation, storage and handling of precast concrete elements, and delineate the related fatal zones;
 - (b) Formulating safe working procedures for transportation, storage and handling of precast concrete elements with due consideration to the results of the risk assessments;
 - (c) Providing all workers concerned with adequate information, instructions, training in respect of the safe system of work;
 - (d) Arrange designated personnels for handling the work processes of precast concrete elements. The relevant personnels must have received appropriate training; and
 - (e) Implement effective supervision to ensure that the safe working procedures are strictly followed by all workers concerned.
2. The precast concrete elements should remain secured by supporting brackets until they were suspended by the lifting appliance for the lifting operation.
3. The storage yard should have a leveled, rigid and tidy surface to ensure the proper storing of precast concrete elements thereon.
4. Develop transportation management procedures for material suppliers including specific safety rules, instructions on site traffic and communication system, etc.
5. Arrange appropriate control measures for non-working hours, such as lunch time or holidays, to ensure that there is no unauthorised work.

Lifting Operation of Precast Concrete Elements

1. Develop safety plan and safe working procedures, brief all relevant workers about the plan and procedures and clearly assign individual safety responsibilities.
2. Implement Safe Lifting "3, 3, 3" as a hold point of lifting procedures before lifting, which can effectively improve the safety of lifting operation:
 - Keep 3m away from materials being lifted;
 - Lift up the materials 300mm from ground; and
 - Wait for 3 seconds for stabilising the lifting object before lifting operation.



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

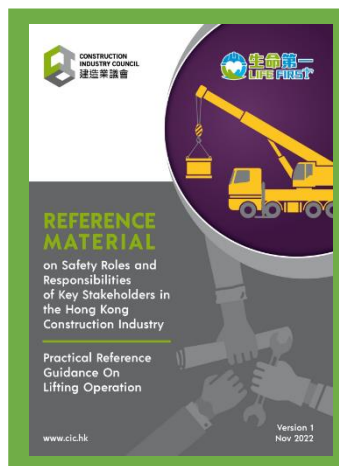
What if all stakeholders can act together and take one step further to fulfill their roles and responsibilities, can similar accident be avoided?

- In the design stage, designers and engineers should consider the space availability and hazards of working environment at each construction stage, and develop a comprehensive safety planning for transportation, storage and handling of precast concrete elements so as to reduce risks from the source.
- During the construction stage, the construction team should develop a monitoring and review system to the works, and strengthen the coordination with material suppliers to ensure that the transportation arrangement of precast concrete elements on site is proceeded according to the plan.
- Prior to the commencement of work, the work team should provide training on safe working procedures to the workers, and ensure that no one is allowed to enter the fatal zone during high-risk operation. In addition, appropriate control measures should be put in place to ensure that no unauthorised work is allowed during non-working hours.
- The workers of material supplier should have effective communication with the work team of the relevant site before commencing work, and comply with the specific safety rules and instructions of the site. In addition, workers can identify any changes in the construction process, report it to their supervisors and take action against it immediately.

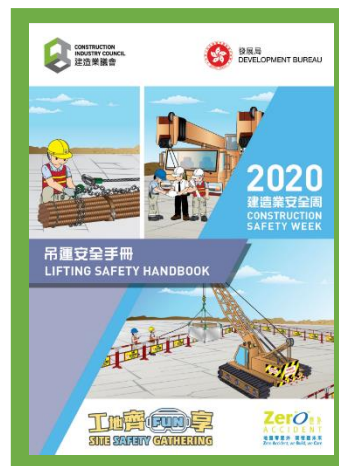
Reference information for sharing



Reference Material
on Fatal Zone Management



Reference Material
on Safety Roles and Responsibilities
of Key Stakeholders in the Hong
Kong Construction Industry
(Practical Reference Guidance On
Lifting Operation)



Lifting Safety Handbook



Poster - Lifting Safety



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