

Qualified Supervision of Building Works Involving Mobile Plants and Tower Cranes

In giving this approval of plans, I hereby impose the following conditions under item 6 in section 17(1) of the Buildings Ordinance (BO):

- (a) For building works with an estimated cost exceeding \$30 million, qualified site supervision of the building works involving the use of mobile plants¹ and tower cranes should be provided by the registered general building contractor (RGBC) and/or the registered specialist contractor (RSC) in accordance with items (b) and (c) below to ensure that the works are carried out in such a manner that it does not cause, or is likely to cause a risk of, injury to any person or damage to any property.
- (b) For the purpose of item (a) above, RGBC and/or RSC should ensure that the mobile plants and tower cranes used for the building works are equipped with automated alert systems, namely the Mobile Plant Alert System² and the Tower Crane Alert System³, in accordance with the Smart Site Safety System⁴. This is to effectively mitigate any potential hazards or unsafe situations that may arise during the operation of mobile plants and tower cranes. The automated alert systems should be capable to immediately alert both the plant operators and any site personnel encroaching the danger zones, where there is a potential risk of being run over or hit by the plant moving components and/or the moving load.
- (c) For the purposes of (a) and (b) above, the authorized signatory (AS) of the RGBC and/or RSC, the AS's representative and the Technically Competent

¹ "Mobile plant" generally includes all mobile plants and not limited to excavators, crawler cranes and mobile cranes.

² Also known as "unsafe acts/dangerous situation alert system for mobile plant operation danger zone". The system will alert the mobile plant operator and any site personnel encroaching the mobile plant danger zone perimeter of the risk of being run over or hit by the plant moving components. The automated warning system shall include adequate number of sensors installed on the mobile plant chassis and movable superstructures to ensure full 360° coverage around the mobile plant danger zone perimeter. The danger zones of the mobile plant operation shall be determined by the safety officer employed pursuant to the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations (Safety Officer) according to risk assessment but in no case shall the extent of the danger zones be less than 2m from any part of the mobile plant.

³ Also known as "unsafe acts/dangerous situation alert system for tower crane lifting zone". The system will alert tower crane operator and any site personnel encroaching upon the tower crane loading/unloading danger zone perimeter of the risk of being hit by the moving load under the crane hook. The automated warning system shall include adequate number of sensors installed on or around the tower crane to ensure full coverage of all loading/unloading areas danger zone perimeter at all floor levels involved. The loading/unloading danger zones of the tower crane operation shall be determined by the Safety Officer according to risk assessment but in no case shall the extent of the danger zones be less than 7m radius from the crane hook. The minimum clearance between the load being lifted and the loading/unloading area activating the automatic warning system shall be determined by the Safety Officer according to risk assessment but in no case be less than 3m.

⁴ Smart Site Safety System (SSSS) generally comprises three components, namely smart safety devices for monitoring activities and identifying safety hazards; a communication network for transmitting data collected from smart safety devices; and a centralised management platform for providing a one-stop hub for data analysis and alerts generation, as well as facilitating follow-up actions. Reference materials on SSSS are provided in the "Guide to Smart Safety-Related Technologies for Use in Construction Works" issued by the Construction Industry Council at [https://www.cic.hk/files/page/51/RM%20Smart%20Safety%20\(Eng\).pdf](https://www.cic.hk/files/page/51/RM%20Smart%20Safety%20(Eng).pdf).

Persons (TCP) for site supervision under the RGBC stream and/or RSC stream should carry out their responsibilities and duties as follows:

- (i) The AS shall prepare an implementation plan for adoption of the Mobile Plant Alert System² and the Tower Crane Alert System³ and ensure the implementation plan is properly executed on site;
- (ii) The AS's representative shall ensure that the implementation plan for adoption of the Mobile Plant Alert System² and the Tower Crane Alert System³ is properly executed on site; and
- (iii) The TCP T1 and TCP T3 shall check that the Mobile Plant Alert System² and the Tower Crane Alert System³ are properly installed and used, and shall report to the AS or AS's representative for rectification whenever malfunction is identified.

2. Under regulation 10 of the Building (Administration) Regulations, the authorized person shall submit a declaration on whether the estimated cost of building works of the project exceeds \$30 million, when applying for consent to the commencement and carrying out of the superstructure works. Failure to comply with such requirement may lead to refusal of the consent application under section 16(3)(b) of the BO.