





REFERENCE MATERIAL

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

Practical Reference
Guidance On
Erection and Dismantling
of Scaffold or Platform

Disclaimer

Whilst reasonable efforts have been made to ensure the accuracy of the information contained in this publication, the CIC nevertheless would encourage readers to seek appropriate independent advice from their professional advisers where possible and readers should not treat or rely on this publication as a substitute for such professional advice for taking any relevant actions

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Preface

The Construction Industry Council (CIC) is committed to seeking continuous improvement in all aspects of the construction industry in Hong Kong. To achieve this aim, the CIC forms Committees, Task Forces and other forums to review specific areas of work with the intention of producing Alerts, Reference Materials, Guidelines and Codes of Conduct to assist participants in the industry to strive for excellence

The CIC appreciates that some improvements and practices can be implemented immediately whilst others may take more time to adjust. It is for this reason that four separate categories of publications have been adopted, the purposes of which are as follows:

Alerts	Alerts are reminders in the form of brief leaflets produced quickly				
	to draw the immediate attention of relevant stakeholders to the				
	need to follow some good practices or to implement some				
	preventive measures in relation to the construction industry.				

Reference	Reference materials for adopting standards or methodologies in
Materials	such ways that are generally regarded by the industry as good
	practices. The CIC recommends the adoption of relevant
	Reference Materials by industry stakeholders where appropriate.

Guidelines	Guidelines provide information and guidance on particular topics
	relevant to the construction industry. The CIC expects all industry
	stakeholders to adopt the recommendations set out in relevant
	Guidelines where applicable.

Codes of	Codes of Conduct set out the principles for all relevant industry
Conduct	participants to follow. Under the Construction Industry Council
	Ordinance (Cap. 587), the CIC is tasked to formulate codes of
	conduct and enforce such codes. The CIC may take necessary
	actions to ensure compliance with the codes.

We encourage you to share your feedback with us. Please take a moment to fill out the Feedback Form attached to this publication for us to further enhance this publication for the benefit of all concerned. With our joint efforts, we believe our construction industry will develop further and will continue to prosper for years to come

Purpose

The aim of this "Practical Reference Guidance on Erection and Dismantling of Scaffold or platform (PRG)" is to provide a technical-based guidance to the stakeholders who may perform erection and dismantling of scaffold or platform in their project. Under section 6A of the Factories and Industrial Undertakings Ordinance (Cap. 59), the proprietor of an industrial undertaking has a duty to ensure, so far as is reasonable practicable, the health and safety at work of all persons employed by him at the industrial undertaking. This type of performance-based legislation requires the duty holders to conduct risk assessment to identify the hazards inherent in the process and develop appropriate precautions for remedy, including provision and maintenance of a safe system of work.

To narrow down the scope of work of the duty holders based on the "Stakeholder Model", the process-based approach is used. The purpose is to confine its application to the process of scaffolding operation. Readers should note that it is not feasible for CIC to develop a PRG for each and every scaffolding work because of various variable factors involved. Readers can nevertheless model on this PRG to develop their own system of work in erection and dismantling of scaffold or platform to fulfill their legal duty under section 6A of the Factories and Industrial Undertakings Ordinance (Cap. 59). Stakeholders' complied with this reference should not be deemed as complied with statutory requirements.

There are altogether 4 PRGs published covering lifting operation, work-above-ground operation, erection and dismantling of scaffold or platform and electrical work.

This publication focuses on the processes – **Erection and Dismantling of Scaffold or Platform**. It provides a step-by-step guidance for the industry stakeholders to develop a safe system of work for scaffolding before commencement the work. This PRG, for the purpose of widening its applicability to different scaffolding processes, is based on the type of operation, instead of task, after taking considering the various types of scaffolding work involved which concern the use of different types of scaffolding equipment, different work environment, different natures of fall arresting equipment, etc.

This PRG, unlike other existing guidance documents for safety at work, emphasizes not only on the ways how the work should be safely carried out, but also on the ways how the work should be safely carried out by respective persons who are playing respective roles at a designated level in a project organization.

1. Usage of Practical Reference Guidance

This PRG is specially prepared for those who will be / are involved in erection and dismantling of scaffold or platform. Such operation needs to be controlled by a well established safe work procedure which is actually a legal requirement under section 6A of the Factories and Industrial Undertakings Ordinance (Cap. 59).

This PRG is modeled on the five steps in a safe system of work given in the guidebook "Safe Systems of Work" (Labour Department, 2004) and provides practical guidance for the stakeholders at tactical level to draw up safe work procedures as required by law.

At tactical level, the project-in-charge can follow the step-by-step guidance to call up the risk assessment team to develop safe system of work, deploy suitable fall arresting system and competent scaffolding team to take up respective post during the erection/dismantling process to reduce, so far as is reasonable foreseeable, any risk inherent in the process of erection and dismantling of scaffold or platform.

At operational level, the PRG provides guidance to those in supervisory functions on safety inspection and document checking.

At behavioural level, the PRG provides guidance on proper work procedures for workers to follow and to reduce human errors at work.

2. Practical Reference Guidance on Erection and Dismantling of Scaffold or Platform

2.1 Principle

The PRG adopts the Six-step Approach to ensure that the hazards are eliminated or the risk minimized through a systematic way that include:

- 1. Assessing the task;
- 2. Identifying the hazards;
- 3. Defining safe methods;
- 4. Implementing the system;
- 5. Monitoring the system; and
- 6. Reviewing the system

The PRG aims to help the construction industry stakeholders by specifying the responsibilities of each respective stakeholder in a construction project according to their designated roles and functions. The proposal makes reference to the construction industry in the following ways:

- For project controller at strategic level (i.e. developer / client) to demonstrate safety commitments and draw up tendering documents and contract specifications;
- 2. For company directors at strategic level to draw up job specifications for project staff before deployment;
- 3. For project-in-charge at tactical level to draw up his project safety plan;
- 4. For project supervisors at operation level to execute their supervision plan; and,
- 5. For operators at execution level to understand their right and responsibilities in execution of their works.
- 6. In this reference material, scaffolding generally refers to processes involving erection, extension, alteration and dismantling of scaffolds

2.2 Six-step Approach

The ten steps involved in the recommended six-step approach are listed as followings:

- 1. Preparation of work plan in scaffolding in pre-construction phase
- Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures
- 3. Establishment of safe scaffolding procedures
- 4. Selection of suitable scaffolding equipment and personal protection system
- 5. Inspection, testing and examination of personal protection system
- 6. Assurance of competence of scaffolding team
- 7. Training of safe scaffolding procedures
- 8. Implementation of safe scaffolding procedures
- 9. Monitoring on adherence of safe scaffolding procedures
- 10. Review of safe scaffolding procedures

2.3 Safety Roles and Responsibilities of stakeholders in different levels

Safety is never a single person responsibility. It is an integrated science requiring input from different people with different safety roles and responsibilities. Different people at different levels have to jointly exercise their functions and contribute their knowledge / experiences in accordance with their respective roles and responsibilities.

A. Client / Developer

 Preparation of work plan in scaffolding in pre-construction phase Strategic Level:

The client / developer should take part in pre-construction phase to design out the risks relating to the methods and facilities for scaffolding, allocate sufficient time and resources for the implementation of safety measures before the scaffolding work commenced. To carry out the scaffolding work safely, the client / developer should select and appoint competent and experienced contractor to undertake the scaffolding project. Before the work starts, the client/developer should convene design out risk meetings with other stakeholders at strategic level to discuss how the risk can be designed out in scaffolding work.

 Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures
 N/A

Establishment of safe scaffolding procedures
 N/A

Selection of suitable scaffolding equipment and personal protection system
 N/A

 Inspection, testing and examination of personal protection system N/A

6. Assurance of competence of scaffolding team N/A

7. <u>Training of safe scaffolding procedures</u>
N/A

Implementation of safe scaffolding procedures
 N/A

 Monitoring on adherence of safe scaffolding procedures N/A

10. Review of safe scaffolding procedures N/A

B. Client's Representative

Preparation of work plan in scaffolding in pre-construction phase Strategic Level:

The client's representative, acting on behalf of the client, should advise the client on the standards and contract requirements on the scaffolding work and give advice to the client on the selection and appointment of a competent scaffold contractors for the scaffolding work. They should also participate in the design out risk meeting to give advice to designer and contractor on legal standards and contract requirements.

Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures

Tactical Level:

The client's representative should participate in the risk assessment team meeting and convey the residue design risk on scaffolding work procedures to the risk assessment team for consideration.

Operational Level:

The supervisory staff should participate in the risk assessment meeting and provide feedback on hazards and control measures to reduce the risks that are anticipated during implementation.

3. Establishment of safe scaffolding procedures

Tactical Level:

The client's representatives should review the procedures submitted by the contractor and provide views and comments on the procedures according to the statutory standards and contractual requirements.

4. <u>Selection of suitable scaffolding equipment and personal protection</u> system

Tactical Level:

The client's representatives should review whether the provided scaffolding equipment provided are appropriate and comply with the statutory standards and contract specifications and endorse the provision of the equipment for the purpose.

Operational Level:

The supervisory staff should provide feedback on the suitability and appropriateness of the scaffolding equipment and method endorsed.

Inspection, testing and examination of personal protection system N/A

6. Assurance of competence of scaffolding team

Tactical Level:

The client's representatives should review and endorse the qualification of the competent scaffolding subcontractor, the independent checking engineer, competent person and trained workmen for the scaffolding work according to the statutory requirements and contract requirements.

7. Training of safe scaffolding procedures

Tactical Level:

The client's representatives should review and endorse the training plan to ensure that it is in line with contract specifications and adequacy of training requirements.

Operational Level:

The client's representatives with supervisory roles should participate in the safety training to understand the safe scaffolding procedures and the proper use of fall arresting equipment and the rules relating to the implementation of the safe work procedures.

8. Implementation of safe scaffolding procedures

Tactical Level:

The client's representatives should review and monitor the precautions in scaffolding operations to ensure they are appropriate and adhered to the statutory requirements and contract specifications.

9. Monitoring on adherence of safe scaffolding procedures

Operational Level:

The client's representatives should conduct random physical inspection to ensure the adherence to scaffolding procedures and to suspend work that would create imminent risk of bodily injury.

10. Review of safe scaffolding procedures

Tactical Level:

The client's representatives should participate in review meeting and provide views on feedback from frontline staff in scaffolding operations.

C. Designer

 Preparation of work plan in scaffolding in pre-construction phase Strategic Level:

All scaffolding should be designed by a professional engineer. They have duties to design out risks in planning and managing pre-construction design of the scaffolds and inform the client and contractor should any modifications from original design of the scaffold be required. They should participate in the design out risk meeting and convey the residue design risk of the scaffolding work to the client / developer, client's representative and the appointed contractor.

 Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures

N/A

3.. Establishment of safe scaffolding procedures

N/A

4. <u>Selection of suitable scaffolding equipment and personal protection system</u>

N/A

- Inspection, testing and examination of personal protection system N/A
- Assurance of competence of scaffolding team
 N/A
- 7. Training of safe scaffolding procedures
 N/A
- Implementation of safe scaffolding procedures
 N/A
- Monitoring on adherence of safe scaffolding procedures N/A
- Review of safe scaffolding procedures
 N/A

D. Main Contractor

Preparation of work plan in scaffolding in pre-construction phase Strategic Level:

The main contractor at head office should make decision to comply with contract requirements. They should participate in design out risk meeting convened by the developer and designer and understand the residue design risks remained after modification, if any, by the designer. Based on the information on the residue design risk, they are required to define standards of performance for the project level and ensure that the accountability system at project level is set up for meeting of performance standards that are required to be performed. In setting standards of performance, the contractor should allocate sufficient support and resources to accomplish them.

2. <u>Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures</u>

Tactical Level:

The main contractor should form a risk assessment team comprising members at all levels to conduct risk assessment for the procedures of the scaffolding work. The risk assessment should identify the hazards from the residue design risks and determine the correct steps and procedures to mitigate the hazards and risks in scaffolding plan. The risk assessment should incorporate input from the design out risk meetings of the client, designer and senior management at head office when drawing the safe scaffolding plan. As a project-in-charge, he should note that risk assessment is not a one-go exercise. He should convene risk assessment meeting on a regular basis and when necessary.

Operational Level:

The supervisory staff should participate in the risk assessment meeting and provide feedback on hazards and control measures to reduce the risks that are anticipated during implementation.

Behavioural Level:

The workmen, who are working directly in the scaffolding work, should participate in the risk assessment meetings and provide feedback on hazards and controls to enable the procedures in scaffolding work are well defined and streamlined in operation.

3. Establishment of safe scaffolding procedures

Tactical Level:

The main contractor should endorse the safe scaffolding procedures prepared according to the findings and input of the risk assessment team. He should allocate sufficient resources for the implementation of the safety procedures on scaffolding and set up in-house rules to regulate the compliance of the established procedures.

4. <u>Selection of suitable scaffolding equipment and personal protection</u> system

Tactical Level:

The main contractor should provide sufficient resources for the provision of suitable and appropriate scaffolding equipment and personal protective equipment according to the endorsed procedures.

Operational Level:

The competent person having supervisory roles at this level should provide feedback on the suitability and appropriateness of the scaffolding equipment and method endorsed.

Behavioural Level:

The scaffolders in the frontline staff should provide feedback on the suitability and appropriateness of the scaffolding equipment and method endorsed.

5. <u>Inspection, testing and examination of personal protection system</u> Tactical Level:

During the erection, alteration and dismantling of the scaffold where use of fall protection system is involved, the project-in-charge of the main contractor should appoint a competent examiner or a competent person recognized by the regulatory body to test and examine the anchorage for the independent life lines to ensure that there is sufficient strength to arrest a person in the case of his fall.

Operational Level:

The competent examiners and competent persons appointed by the main contractor should carry out inspections, testing and examinations of the scaffold and its associated fall protection system as appropriate according to the statutory requirements and the contract specifications. The results of the inspection, testing and examination should be entered in approved form and the reports should be delivered to the safety personnel for record. Should there be any defects observed during their testing and examination of the scaffold or fall protection system, they should report such defects to project-in-charge and / or Labour Department as appropriate.

6. Assurance of competence of scaffolding team

Tactical Level:

The main contractor should appoint competent subcontractor for the scaffolding work. If it involves structural or stability issue, the main contractor should appoint independent checking engineer to certify the scaffold work. The project-in-charge should appoint competent person as specified under the law to exercise immediate supervision of the erection, alteration and dismantling of the scaffold and to ensure that only trained workmen are deployed for the scaffolding work.

Operational Level:

The supervisory staff should provide feedback on the suitability and competence of the competent person and the trained workmen who carry out the erection, alteration and dismantling of the scaffold at frontline.

7. Training of safe scaffolding procedures

Tactical Level:

The main contractor should ensure that the persons involved in scaffolding work are adequately trained and competent to the safe work procedures as endorsed for the type of scaffold to be erected. The main contractor should also endorse the safety training plan prepared by the safety personnel and provide sufficient time and resources to the scaffolding team members to attend the training before commencement of the scaffolding work.

Operational Level:

The supervisory staff should participate in the safety training to understand the safe scaffolding procedures, the proper use of fall arresting equipment and the rules relating to the implementation of the safe work procedures.

Behavioural Level:

The frontline workers should participate in the safety training to understand safe scaffolding procedures, the correct use of fall arresting system and the rules relating to the implementation of the safe work procedures.

8. Implementation of safe scaffolding procedures

Tactical Level:

The project-in-charge should ensure the scaffolding works adhere to the endorsed scaffolding procedures. When a tropical cyclone warning signal or a strong monsoon signal is announced, all works in the scaffold should be suspended. Appropriate measures shall be taken, including securing the scaffolding and its components, dismantling the scaffolding canvas or nylon netting and remove the materials placed on the scaffold

Operational Level:

The supervisory staff should verify whether the scaffolding materials and personal protective equipment are in line with the endorsed safety procedures for the scaffolding work and check the competence of the scaffolding team members according to the endorsed safe work procedures.

Behavioural Level:

All frontline workers involving in scaffolding operations should adhere to the endorsed safe work procedures and statutory requirements. They should adhere to the proper use of personal protective equipment.

9. Monitoring on adherence of safe scaffolding procedures

Tactical Level:

The project-in-charge should develop disciplinary policy to enforce the compliance of scaffolding procedures and statutory requirements. He / she should ensure that an effective inspection program is in place and delegate sufficient authority to the frontline supervisors to suspend work that creates imminent risk of bodily injury. He / she should endorse the corrective actions promptly for quick rectification of dangerous situations to minimize the risk

Operational Level:

The supervisory staff should conduct inspection to monitor the adherence of safe scaffolding procedures and ensure the unsafe facilities for scaffolding protection are not used and replaced by safe one. When any unsafe conditions are identified, he should suspend the work and ensure that work should not be resumed until all corrective actions are taken

10. Review of safe scaffolding procedures

Tactical Level:

The main contractor should establish channel for feedback from frontline staff relating to change of working environment, defects on work equipment, workability of control measures, etc., and ensure that all hazards conveyed to them are promptly followed up. He should convene review meeting on a regular basis and when accident has happened.

Operational Level:

The supervisory staff should participate in review meeting and report feedback from the frontline staff in scaffolding operations.

Behavioural Level:

All frontline staff in scaffolding operations should report hazards to supervisors for corrective actions. They should provide feedback on control measures and suggest actions for improvements.

E. Sub-contractor

 Preparation of work plan in scaffolding in pre-construction phase N/A

2. Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures

Tactical Level:

The project-in-charge of the scaffolding work should form a risk assessment team comprising members at all levels to conduct risk assessment for the procedures of the scaffolding work. The risk assessment should identify the hazards from the residue design risks and determine the correct steps and procedures to mitigate the hazards and risks in scaffolding plan. The risk assessment should incorporate input from the design out risk meetings of the Client and Designer and senior management at head office when drawing the safe scaffolding plan. As a project-in-charge, he should note that risk assessment is not a one-go exercise. He should convene risk assessment meeting on a regular basis and when necessary.

Operational Level:

The supervisory staff should participate in the risk assessment meeting and provide feedback on hazards and control measures to reduce the risks that are anticipated during implementation.

Behavioural Level:

The workmen, who are working directly in the scaffolding work, should participate in the risk assessment meetings and provide feedback on hazards and controls to enable the procedures in scaffolding work are well defined and streamlined in operation.

3. Establishment of safe scaffolding procedures

Tactical Level:

The project in-charge of the scaffolding team should endorse the safe scaffolding procedures prepared by the safety personnel according to the findings and input of the risk assessment team. He should allocate sufficient resources for the implementation of the safety procedures on scaffolding and set up in-house rules to regulate the compliance of the established procedures.

4. <u>Selection of suitable scaffolding equipment and personal protection</u> system

Tactical Level:

The sub-contractor, should provide sufficient resources for the provision of suitable and appropriate scaffolding equipment and personal protective equipment according to the endorsed procedures.

Operational Level:

The competent person should provide feedback on the suitability and appropriateness of the scaffolding equipment and method endorsed.

Behavioural Level:

The scaffolders in the frontline, should provide feedback on the suitability and appropriateness of the scaffolding equipment and method endorsed

5. <u>Inspection, testing and examination of personal protection system</u> Tactical Level:

During the erection, alteration and dismantling of the scaffold where use of fall protection system is involved, the project-in-charge of the sub-contractor should appoint a competent examiner or a competent person recognized by the regulatory body to test and examine the anchorage for the independent life lines to ensure that there is sufficient strength to arrest a person in the case of his fall.

Operational Level:

The competent examiners and competent persons appointed by the sub-contractor should carry out inspections, testing and examinations of the scaffold and its associated fall protection system as appropriate according to the statutory requirements and the contract specifications. The results of the inspection, testing and examination should be entered in approved form and the reports should be delivered to the safety personnel for record. Should there be any defects observed during their testing and examination of the scaffold or fall protection system, they should report such defects to project-in-charge and / or Labour Department as appropriate.

6. Assurance of competence of scaffolding team

Tactical Level:

The project-in-charge should appoint competent subcontractor for the scaffolding work. If it involves structural or stability issue, the sub-contractor should appoint independent checking engineer to certify the scaffold work. For scaffolds, which do not require structural calculation, the project-in-charge should appoint competent person as specified under the law to exercise immediate supervision of the erection, alteration and dismantling of the scaffold and to ensure that only trained workmen are deployed for the scaffolding work.

Operational Level:

The supervisory staff should provide feedback on the suitability and competence of the competent person and the trained workmen who carry out the erection, alteration and dismantling of the scaffold at frontline

7. Training of safe scaffolding procedures

Tactical Level:

The project-in-charge should ensure that the persons involved in scaffolding work are adequately trained and competent in the safe work procedures as endorsed for the type of scaffold to be erected. He should also endorse the safety training plan prepared by the safety personnel and provide sufficient time and resources to the scaffolding team members to attend the training before commencement of the scaffolding work.

Operational Level:

The supervisory staff should participate in the safety training to understand the safe scaffolding procedures, the proper use of fall arresting equipment and the rules relating to the implementation of the safe work procedures.

Behavioural Level:

For sub-contractor of any tiers at this level, the frontline workers should participate in the safety training to understand safe scaffolding procedures, the correct use of fall arresting system and the rules relating to the implementation of the safe work procedures.

8. Implementation of safe scaffolding procedures

Tactical Level:

The project-in-charge should ensure the scaffolding works adhere to the endorsed scaffolding procedures. When a tropical cyclone warning signal or a strong monsoon signal is announced, all works in the scaffold should be suspended. Appropriate measures shall be taken, including securing the scaffolding and its components, dismantling the scaffolding canvas or nylon netting and remove the materials placed on the scaffold.

Operational Level:

For subcontractor of any tiers at this level, the supervisory staff should verify whether the scaffolding materials and personal protective equipment are in line with the endorsed safety procedures for the scaffolding work and check the competence of the scaffolding team members according to the endorsed safe work procedures.

Behavioural Level:

For subcontractor of any tiers, all frontline workers involved in scaffolding operations should adhere to the endorsed safe work procedures and statutory requirements. They should adhere to the proper use of personal protective equipment.

9. Monitoring on adherence of safe scaffolding procedures

Tactical Level:

The project-in-charge should develop disciplinary policy to enforce the compliance of scaffolding procedures and statutory requirements. He should ensure that an effective inspection program is in place and delegate sufficient authority to the frontline supervisors to suspend work that create imminent risk of bodily injury. He should endorse the corrective actions promptly for quick rectification of dangerous situations to minimize the risk.

Operational Level:

For subcontractor of any tiers, the supervisory staff should conduct inspection to monitor the adherence of safe scaffolding procedures and ensure the unsafe facilities for scaffolding protection are not used and replaced by safe one. When any unsafe conditions are identified, he should suspend the work and ensure that work should not be resumed until all corrective actions are taken.

10. Review of safe scaffolding procedures

Tactical Level:

The project-in-charge should establish channel for feedback from frontline staff relating to change of working environment, defects on work equipment, workability of control measures, etc., and ensure that all hazards conveyed to them are promptly followed up. He should convene review meeting on a regular basis and when accident has happened.

Operational Level:

For sub-contractor of any tiers, the supervisory staff should participate in review meeting and report feedback from the frontline in scaffolding operations.

Behavioural Level:

For subcontractor of any tiers, all frontline in scaffolding operations should report hazards to supervisors for corrective actions. They should provide feedback on control measures and suggest actions for improvements.

F. Safety Personnel

Preparation of work plan in scaffolding in pre-construction phase
 The safety personnel should understand the legal and contractual requirements and assist in preparing the work plan.

Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures

Tactical Level:

The safety personnel of the main contractor and sub-contractor should actively participate in the risk assessment meeting to assist the identification of the hazards on scaffolding work and convey the identified hazards to the risk assessment team for discussion. He/she should also suggest safety measures to minimise the risk on scaffolding work according to current standards and codes of practices. After discussion, he/she should record or assist to record the resolutions of the risk assessment meeting for subsequent review.

3. Establishment of safe scaffolding procedures

Tactical Level:

The safety personnel of the main contractor, who attends the risk assessment meeting, should record or assist to record the resolution of the meeting and prepare the safe scaffolding work procedures accordingly.

4. <u>Selection of suitable scaffolding equipment and personal protection</u> <u>system</u>

Tactical Level:

The main contractor or subcontractor should check and prepare specifications of personal protective equipment for procurement of appropriate equipment by the use of scaffolders during erection, alteration and dismantling of the scaffold.

5. <u>Inspection, testing and examination of personal protection system</u> Tactical Level:

The safety personnel of the main contractor or sub-contractor of any tiers, he / she should arrange the schedules for inspection of the scaffold by competent person and testing and examination of structural falsework and the fall protection system by competent examiner according to the statutory requirements and contract specifications. The reports and certificates of such inspections, testing and examinations should be filed and kept available for inspections by relevant persons and the regulatory bodies.

6. Assurance of competence of scaffolding team

Tactical Level:

The safety personnel of the main contractor / subcontractor should check with legal standards and contract specifications on the competence requirements of the scaffolding team members that include independent checking engineer, competent person and the trained workmen and pass information to the project-in-charge for appointment.

7. Training of safe scaffolding procedures

Tactical Level:

The safety personnel of the main contractor and sub-contractor should prepare the training plan for the scaffolding work and to identify the personnel involved in scaffolding works to attend the safety training. He should monitor the implementation of the training plan after endorsement by the project-in-charge and keep attendance records and feedback from the attendees for review.

8. Implementation of safe scaffolding procedures

Tactical Level:

The safety personnel of the main contractor and subcontractor of any tier, should check and verify the precautions entered in the safe work procedures are in place and also issue of permit, if required.

9. Monitoring on adherence of safe scaffolding procedures

Tactical Level:

The safety personnel of the main contractor and subcontractor of any tiers should conduct inspection to oversee performance of the frontline in their scaffolding work to ensure compliance of the endorsed safe work procedures. In case of dangerous situations encountered during duty, he / she should immediately suspend the work that would create imminent risk of bodily injury and follow up the corrective actions before allowing the scaffolding work to resume. He/she should also prepare performance data sheet for analysis and review.

10. Review of safe scaffolding procedures

Tactical Level:

The safety personnel of the main contractor and sub-contractor of any tiers, should consolidate feedback from frontline for discussion in review meetings. He / she should participate in review meeting and provide views on feedback from frontline in scaffolding operations.

A matrix showing the Safety Roles of Respective Stakeholders and their Safety Responsibilities at Respective Level correlating to each step of the "Practical Reference Guidance on Erecting and Dismantling of Scaffold or Platform" is given at Appendix 1 for reference.

Appendix I – Safety Roles of Respective Stakeholders and their Safety Responsibilities at Respective Level correlating to each step of the "Practical Reference Guidance on Erection and Dismantling of Scaffold or Platform"

Position (Subject to individual organisiation decision and arrangement)		Preparation of work plan in scaffolding in pre-construction phase	Conduct of risk assessment to define safe scaffolding erection / alteration / dismantling procedures	3 Establishment of safe scaffolding procedures	Selection of suitable scaffolding equipment and personal protection system	
	Client / Developer	Project Director, Project Manager, etc.	Ensure design out risk for work above ground Allocate sufficient time and resources for the scaffolding work Select and appoint competent and experienced contractor to undertake the scaffolding project Convene design out risks meeting on scaffolding work			
Strategic Level	Client's Representative	Architect, Principle Engineer	Advise on the standards and contractual requirments for the scaffolding work Advise on selection and appointment of competent scaffolding contractor Participate in design out risk meeting			
(High-level Decision Making)	Designer	Architect, Engineer	Decide the type of scaffolding to be erected for the purpose Design out risk in planning and managing the scaffolding during the pre-construction phase Participate in design out risk meeting and review meetings Communicate with client/developer on residue design risk			
	Main Conractor	Director, Project Director, Contract Manager, etc.	Ensure setting up accoutability system during project development Participate in design out risk meeting Setting standards of performance at policy level Provide sufficient supports and resources for safety program			
	Client's Representative	Architect, Resident Engineer		Participate in risk assessment Communicate the residue risk on scaffolding work procedure for considerations	Review the scaffoling work procedures submitted by the contractor Confirm and approve the scaffolding work procedures that satisfy the statutory standards and contractual requirments	Review and endorse scaffolding and personal protective equipment are complied with the statutory standards and contract specifications for the scaffolding work B4
Tactical Level (Line Management Function)	Main Contractor / Sub-contractor	Project Manager, Construction Manager, Site Agent, Superintendent, etc.		Form a risk assessment team with all levels Convene risk assessment meeting with risk assessment team Incorporate safety inputs from design out risk meeting Conduct risk assessment to identify and mitiagte hazards / risk by correct steps and procedures for the scaffolding plan	Endorse safe scaffolding work procedures prepared by safety personnel according to the inputs of the risk assessment teams Set up in-house rules to implement scaffolding procedures Provide sufficient resources necessary for the implementation and compliance to the safety procedures	Provide sufficient resources for provision of suitable and appropriate scaffolding and personal protective equipment according to the endorsed procedures for the scaffolding work D4 / E4
	Main Contractor & Subcontractor of any Tiers - Safety Personnel	Safety Manager, Safety Officer, Safety Supervisor, Safety Representative	Understand the legal and contractual requirments F1	Participate in risk assessment meeting Assist in identification of scaffolding work hazards Communicate hazards to risk assessment team Suggest safety measures to minimize the risk on scaffolding work according to current standards and codes of practices Record the resolution of the risk assessment meeting	Prepare safe scaffolding work procedures according to resolution of the risk assessment team F3	Prepare specification for personal protective equipment F4
	Client's representative	Inspectorates, Work Supervisors, etc.				
Operation Level	Main Contractor / Sub-contractor	Engineer, Superviser, Foremen, etc.		Participate in risk assessment meeting Provide feedback on hazards and control measures that are feasible to reduce risk in implementation D2 / E2		Feedback on suitability and appropriateness of the scaffolding equipment deployed D4 / E4
(Supervising Function)	Competent person	Competent person				
	Competent examiner / ANCP	Competent examiner / ANCP				
Behavioural Level (Works Executing Fucntion)	Main Contractor / Subcontractor	Scaffolder		Participate in risk assessment meeting Provide feedback to enable the procedures in scaffolding work are well defined and streamlined in operation D2 / E2		Feedback on suitability and appropriateness of the scaffolding method and equipment deployed D4 / E4

Appendix I – Safety Roles of Respective Stakeholders and their Safety Responsibilities at Respective Level correlating to each step of the "Practical Reference Guidance on Erection and Dismantling of Scaffold or Platform"

Inspection, testing and examination of personal protection system	Assurance of competence of scaffolding team	Training of safe scaffolding procedures	8 Implementation of safe scaffolding procedures	Monitoring on adherence of safe scaffolding procedures	Review of safe scaffolding procedures
	Review and endorse qualification, competence and experience of the ICE / CP / scaffolders according to the statutory requirments and contract requirments	Review and approve training plan and program on scaffolding work are in accordance with contract specifications Monitor adequacy of training	Review and monitor precautions in scaffoling work in accordance with the statutory requirments and contract specifications B8		Participate in review meeting Provide views on feedback from frontline B10
Appoint competent examiner (RPE / ICE) to certify the structural safety of the scaffold Appoint competent examiner / competent person for testing of fall protection facilities and equipment	Appoint competent contractor / ICE / competent person to supervise the scaffolding work Appoint trained and certified scaffolders to carry out scaffolding work D6 / E6	Endorse training plan on scaffolding work Ensure the scaffolders are adequatedly trained and competent on steps and procedures for the type of scaffold to be erected or dismantled Provide sufficient time and resources for safety training Ensure scaffolders attend safety training in scaffolding work	Ensure scaffolding works are adhered to the endorsed safety procedures and fall protection facilities and equipment to be used Issue of permit, if necessary, for scaffoling operations	Develop disciplinary policy to enforce the compliance of scaffolding work procedures and statutory requirements Delegate authority to frontline supervisors Ensure effective inspection program to be implemented Endorse corrective actions on non-compliance items to minimize the risk of work	Establish channel for feedback from frontline relating to changes of working environment or defects in safety provision Ensure reported hazards are promptly followed up Convene review meeting on regular basis or special situation
Arrange schedule for inspection, test and examination of fall protection facilities and equipment by Competent Examiner / Competent Person conforming to safety standards File reports and certificates signed by Competent Examiner Competent Person who conduct the test, examination and inspection Keep reports available for inspection	Check standards and contract specification on competence of scaffolding team and pass to project in charge for appointment	Identify the personnel involved in the scaffolding work to attend the training Prepare training plan for scaffolding safety Monitor implementation of training plan Keep attendance records of safety training and feedbacks for review	Check and verify precautions entered in the procedures and permit issued for the scaffolding work are in place F8	Conduct inspection to oversee performance of the scaffolders to ensure compliance Prepare performance data sheet for analysis Follow-up endorsed corrective actions on non-compliance Suspend work that create imminent risk of bodily injury	Consolidate feedback for discussions in review meeting Participate in review meeting Provide views on feedback from frontline
	Feedback on suitability of competence of the appointment	Attend safety training to understand safety procedures including safe use of fall arresting equipment and compliance to the safety procedures B7		Conduct inspection to ensure the adherence to the procedure B9	
Carry out test and examination as specified by legislations Enter record of test and examination in approved form Deliver report on test and examination for the anchorages and independent lifelines for the fall protection Report defects found from the fall protection facilities and equipment to Project in charge and Labour Department	Feedback on suitability and competence of the scaffolders D6 / E6	Attend safety training to understand safety procedures including safe use of fall arresting equipment and compliance to the safety procedures D7 / E7		Conduct inspection to ensure adherence of safety procedures in scaffolding work Suspend scaffolding work that create imminent risk of bodily injury	
Inspect the scaffolds periodically D5 / E5		Attend safety training to understand safety procedures including safe use of fall arresting equipment and compliance to the safety procedures D7 / E7 D7 / E7	Check the scaffolding materials and personnal protective equipment adhered to the endorsed safety procedures Check the competence of the scaffoling team according to the endorsed safe procedures D8 / E8	Ensure safe use of fall protection facilities and equipment in scaffolding work Conduct inspection to ensure adherence of safety procedures in scaffolding work Suspend work that create imminent risk of bodily injury	Participate in review meeting Report feedbacks from frontline
Test of anchor device before use Enter result in appropriate form Deliver document to project in charge for action			1.Inspect and test anchor device before use D8 / E8		
		Attend safety training to understand safety procedures including safe use of fall arresting equipment and compliance to the safety procedures. D7 / E7 D7 /	Adhere to standardized safety procedures and statutory requirements during scaffolding work Correct use of personal protective equipment provided D8 / E8		Report hazards to supervisor for corrective actions Give feedback on effectiveness of control measures Make suggestions to improve safe scaffolding protection



Feedback Form [Reference Material on Safety Roles and Responsibilities of Key Stakeholders in the Hong Kong Construction Industry - Practical Reference Guidance On Erection and Dismantling of Scaffold or Platform]

Thanks for reading this publication. To pursue improvement in our future versions, we appreciate your valuable suggestions.

(Please put a " √ " in the appropriate box)

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Comprehensive						
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