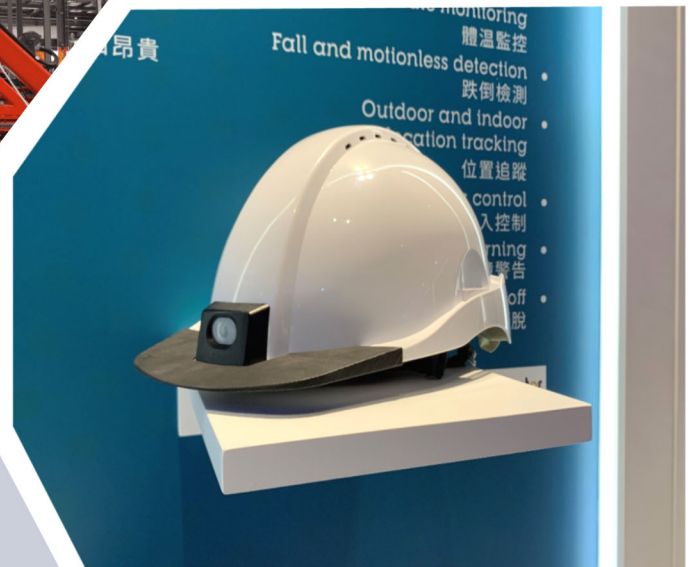




CONSTRUCTION
INDUSTRY COUNCIL
建造業議會



Reference Materials - Sample Specification for Provision of the Safety Incentive Payment Scheme

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Appendix 1: Sample – Provisional Quantities for the Safety Incentive Payment Scheme

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 for implementation. It is for this reason that four separate categories of publication have been adopted, the purposes of which are as follows:

| | |
|---------------------|--|
| Alerts | The Alerts are reminders in 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 Materials | The Reference Materials are standards or methodologies generally adopted and regarded by the industry as good practices. The CIC recommends the adoption of the Reference Materials by industry stakeholders where appropriate. |
| Guidelines | The 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 the Guidelines where applicable. |
| Codes of Conduct | The Codes of Conduct set out the principles that all relevant industry participants should 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. |

If you have read this publication, we encourage you to share your feedback with us. Please take a moment to fill out the Feedback Form attached to this publication in order that we can further enhance it 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.

ABBREVIATIONS

SIPS Safety Incentive Payment Scheme

HRAMEP High Risk Activities Management and Execution Plan

1. INTRODUCTION

Despite the decreasing accident rate in the Hong Kong construction industry over the years, the fatality rate among construction workers remains relatively high and is still a major concern. The Safety Incentive Payment Scheme (SIPS) given in this publication, with provision for task-based payment and performance-based payment, aims to incentivise collaborative development of specific control and performance measurement by the contracting parties to effectively manage high-risk activities in the various construction stages under the contract programme. The adoption of SIPS, through procurement and contractual arrangement, will help improve site safety performance in construction contracts.

This publication presents sample specification clauses that can be adopted/adapted for the provision of the SIPS in construction contracts. It is written to provide reference materials for competent professionals in the preparation of contracts.

The sample specification clauses should be modified or added, where necessary, for the preparation of a particular specification, to suit the requirements of each individual project. Notes are given (where appropriate) in italics against some of the clauses on the issues to be considered or factors to be taken into account in finalising the contract requirements.

In the contract procurement process, tenderers should be required to include in their technical proposal a list of high-risk activities for the execution of their chosen construction methods and work sequences during the various construction stages. In addition, they should prepare safety-related measures/items that they plan to implement for preventing (or mitigating) the risk of fatal and serious construction accidents for tender evaluation. The fee proposal should provide an estimated price for implementing each safety-related measure/item if approved by the Architect/Engineer and the Employer in the implementation of the contract. Consideration should be given to rejection (or giving very low marks) to those tenders with inadequate identification of high-risk activities associated with the execution of the works in the contract and/or inadequate provision of safety-related measures in the technical proposal.

It is suggested to allocate a provisional sum of up to 1% of the contract sum for implementing the approved safety-related items under the SIPS.

2. SAMPLE SPECIFICATION CLAUSES FOR PROVISION OF THE SAFETY INCENTIVE PAYMENT SCHEME

2.010 General Requirements

- (1) The Safety Incentive Payment Scheme (SIPS) shall be incorporated in the Contract, with the aim of encouraging the Contractor to improve construction site safety performance through contractual arrangement.
- (2) Under the SIPS, the Employer is obliged to pay the Contractor, upon the Contractor's satisfactory completion of safety-related items certified by the Architect/Engineer on behalf of the Employer, at the pre-priced rates for the relevant items set out in the Bills of Quantities or Schedule of Rates.

(Note: As a sample for reference, provisional quantities for the SIPS items are listed in the Schedule of Quantities and Rates – See Appendix 1.

The term “Architect/Engineer” may be changed to other terms to suit different project situations. For example, “Supervising Officer”, “Contract Manager”, and “Appointing Party”, etc., may be used as appropriate.)

- (3) Under the SIPS, the Contractor shall submit to the Architect/Engineer (regularly as specified) a High Risk Activities Management and Execution Plan (HRAMEP) and implement the safety-related items as approved by the SIPS Assessment Panel in order to prevent fatal and serious accidents, and hence minimise the accident rate within the contract period.
- (4) The SIPS Assessment Panel, which shall include the representatives from the Employer and the Architect/Engineer, shall assess the Contractor's construction site safety performance in accordance with the SIPS.
- (5) The Contractor shall implement all the safety-related items in accordance with the SIPS including, but not limited to, the preparation and submission of the relevant documents, particularly the HRAMEP pursuant to Clause No. 2.020, deployment of competent safety personnel and competent supervision personnel, workers, materials, plant and equipment, execution of the safety improvement tasks adopting safe methods and work sequences, and coordination with the related project stakeholders, etc. No extra cost nor extension of time shall be allowed for implementation of these safety-related items.

2.020 High Risk Activities Management and Execution Plan

- (1) The HRAMEP shall include the following:
 - (a) A list of the high-risk activities in the construction site works (ranked in order of risk, highest to lowest) in the upcoming two-month period (*or three-month, if preferred*) based on the works programme for the contract;
 - (b) Assessment of the hazards for the top three ranked high-risk activities on the list;
 - (c) A list of proposed tasks to remove the hazards and/or minimise the risks so far as is reasonably practicable for the high-risk activities;
 - (d) A simple set of pictorial explanations for the proposed tasks listed in Clause 2.020 (1)(c) above that shall be used for briefing the workers and supervisors on site.

- (2) In Clause 2.020 (1)(c) above, the proposed tasks shall include, but not limited to, provision of additional competent supervision personnel^{#1}, use of advanced technologies, plant and equipment and innovative construction methods and materials, site logistics arrangements to enhance safety performance, emergency preparedness measures, and safety training to effectively draw the attention of the construction workers and supervisors deployed about the importance of site safety, and the aims and execution of the safety-related tasks to prevent fatal and serious accidents, etc. These proposed tasks shall be prepared in accordance with the assessment criteria specified in Clause 2.020 (4) below.
- (3) For each of the proposed tasks listed in Clause 2.020 (1)(c) above, the Contractor shall provide details on how the proposed task can be used to remove hazards, reduce risks and prevent accidents, in particular fatal and serious accidents, on site. For example, if an additional competent site supervisory person is proposed, the Contractor shall provide details of the proposed person including his/her qualifications and related recent training and experience, roles and responsibilities including hold-points on site, and how his/her engagement can help remove hazards, reduce risks and prevent accidents, etc.
- (4) The SIPS Assessment Panel shall evaluate the HRAMEP submitted by the Contractor based on the assessment criteria listed in the table below.

| Assessment Criteria | Considerations by the Assessment Panel |
|--|--|
| (a) Suitability of proposed high-risk activities | The top three ranked high-risk activities identified are based on the works programme and have been carefully and effectively assessed. |
| (b) Innovation in safety | Application of the proposed advanced technologies, plant and equipment and/or innovative construction methods and materials can help to remove the hazards, reduce the risks and prevent accidents for the top three ranked high-risk activities identified. |
| (c) Effectiveness of proposed tasks | Appropriate application of the hierarchy of hazard control (see below) to help eliminate or minimise exposure to hazards. <u>Hierarchy of hazard control:</u> Elimination → Substitution → Engineering Control → Administrative Controls → Personal Protective Equipment |
| (d) Level of engagement | (i) Provision of timely and specific safety training and briefing to the workforce, subcontractors and site supervisors. |
| | (ii) Provision of mechanisms and evidence to engage and reward/pay subcontractors, workers and site supervisors under the SIPS. |
| | (iii) Provision of additional site safety personnel and competent supervisory personnel ^{#1} . |

- (5) The Contractor shall submit to the Architect/Engineer three copies of the HRAMEP either within 14 calendar days from (and including) the date of

the Employer's letter of acceptance of the Tender or within 7 calendar days from (and including) the Commencement Date, whichever is earlier.

- (6) Within 7 calendar days from the date of the HRAMEP submission, the Architect/Engineer shall arrange a meeting (or meetings if necessary) with the SIPS Assessment Panel to discuss and review the HRAMEP. If the HRAMEP is assessed to be inadequate for meeting the objectives of removing hazards, reducing risks and preventing accidents on site, the Architect/Engineer shall request the Contractor to revise and resubmit the HRAMEP to the Architect/Engineer within 3 calendar days.
- (7) The Contractor shall review and update the HRAMEP based on the works programme and submit it to the Architect/Engineer (*or the SIPS Assessment Panel, if delegated such duties*) on a bi-monthly basis for comments and approval. The submission time and the coverage period of the last HRAMEP shall be determined by the Architect/Engineer.
- (8) If the Contractor fails to submit the HRAMEP in accordance with the time frame specified in Clause 2.020 (5) or (6) above, the Contractor shall not be paid for the submission.
- (9) If the Contractor fails to achieve the specified requirements in this Clause or the HRAMEP does not meet the objectives specified by the Architect/Engineer (*or the SIPS Assessment Panel*) even after revision within the time allowed, the HRAMEP shall not be approved and the Contractor shall not be paid for this submission. However, this shall not affect the submission of the subsequent HRAMEP. The Contractor shall continue to review, update and submit the HRAMEP at the next time interval in accordance with Clause 2.020 (7) above.

2.030 Task-based Payment Mechanism

- (1) The Contractor shall comply with the approved HRAMEP in implementing the listed tasks in Clause 2.020 (1)(c) above. The Contractor shall assign a sufficient number of competent supervisors with authority to stop work and remove personnel on site as necessary to ensure that his/her employees and subcontractors of all tiers comply with the approved HRAMEP. The roles and responsibilities of each competent supervisor assigned shall be clearly defined and made known to the assigned person.
- (2) The Contractor shall be entitled to receive a task-based payment (as listed in the Bills of Quantities or Schedule of Rates) when each task is satisfactorily completed and certified by the Architect/Engineer, subject to meeting the following conditions:
 - (a) The Contractor shall have submitted the HRAMEP to the Architect/Engineer in accordance with Clause 2.020 (5), (6), (7) and (8) and have obtained the approval from the SIPS Assessment Panel;
 - (b) The Contractor shall have implemented the listed tasks as approved in the HRAMEP and ensured that his/her employees and subcontractors of all tiers comply with the approved HRAMEP to the satisfaction of the Architect/Engineer (*or the SIPS Assessment Panel*);

- (c) No fatal accident has occurred at the time of certified completion of the construction works covered by the task approved in the HRAMEP; and
 - (d) No serious accidents^{#2} have occurred at the time of certified completion of the construction works covered by the task approved in the HRAMEP.
- (3) The Contractor shall provide all necessary documentary proof to support his/her payment application whenever requested by the Architect/Engineer or the SIPS Assessment Panel.

2.040
Performance-
based Payment
Mechanism

(Note: *The Employer can consider sub-dividing the payment for a long running contract or just have a single payment at the end for a short duration contract.*)

- (1) *On the 365th calendar day from commencement of the Contract, on the 730th calendar day from commencement of the Contract, and upon the issuance of the Defects Rectification Certificate for the whole contract by the Architect/Engineer, the Contractor shall be entitled to receive the performance-based payment calculated for the respective periods, subject to meeting the following conditions:*
- (a) No fatal accident and no serious accidents^{#2} have occurred throughout the whole contract period *up to the 365th calendar day from commencement of the Contract, 730th calendar day from commencement of the Contract and upon the issuance of the Defects Rectification Certificate for the whole contract respectively;*
 - (b) The Contractor has submitted all the HRAMEPs at the specified time intervals in accordance with Clause 2.020 (5), (6) and (7);
 - (c) All the HRAMEPs submitted at the specified time intervals have been approved by the Architect/Engineer (or the SIPS Assessment Panel) and the listed tasks have been implemented to the satisfaction of the Architect/Engineer (or the SIPS Assessment Panel).
- (2) The Contractor shall provide all necessary documentary proof to support his/her application whenever requested by the Architect/Engineer (or the SIPS Assessment Panel).
- (3) The Architect/Engineer (or Quantity Surveyor) shall finalise the assessment of the performance-based items within the Period of Final Measurement as stated in the Appendix for the Form of Tender.

2.050 Audit

- (1) The Architect/Engineer (or the SIPS Assessment Panel) shall carry out inspection audits for the implementation of listed tasks as included in the submitted HRAMEP at any time during the contract period, after informing the Contractor of his/her intended times of inspection audits.

- (2) The Contractor shall provide all necessary assistance as requested by the Architect/Engineer (or the SIPS Assessment Panel) during inspection audits.

Note:

- #1. Additional site safety personnel refers to those competent site safety personnel provided over and above the minimum number of safety personnel based on legal or contract requirements. Additional competent supervisory personnel refers to those personnel provided above the requirements of the proposal for technically competent supervisory personnel submitted by the Contractor in the tender document.
- #2. Serious accident means an accident involving either one or a combination of the following:
 - (a) Serious bodily injury at a construction site, which (i) results in a loss or amputation of limb; or (ii) has caused or is likely to cause permanent total disablement to the injured person;
 - (b) Dangerous incident at a construction site, which leads to (or results in) an injury that is considered serious (but not up to the extent as described in (a) above), or damage to works or property on (or adjacent to) the construction site that posed a potential threat to public safety – as determined by the Architect/Engineer; or received any suspension (or improvement) notice from the Labour Department.

Appendix 1: Sample – Provisional Quantities for the Safety Incentive Payment Scheme

| ITEM | DESCRIPTION | QUANTITY | UNIT | RATE | \$ | € |
|--------------------------|---|----------|------|------|----|---|
| | <p><u>SCHEDULE NO. X</u> <u>SAFETY INCENTIVE PAYMENT SCHEME</u></p> <p><u>NOTES:</u></p> <p>a) Rates appearing in this Schedule are pre-fixed and shall be deemed to allow for the value of work in connection with all the requirements of safety and health in the execution of the Works and any other related obligations, liabilities, risks and profit, as mentioned in the Specification for the Safety Incentive Payment Scheme. In the event that the rates are deemed to be insufficient, or where there are any aspects where the methods provided hereunder do not measure any item or exclude the measurement of any item or part thereof, the difference in value shall be deemed to have been included in the rates inserted elsewhere in the Schedule of Rates. The requirements are pre-requisites for measurement of the items in this Schedule of Rates. No measurement shall be made of any items where the Contractor cannot meet the requirements of the Specification for the relevant item.</p> <p>b) The provision under the Hong Kong Standard Method of Measurement of Building Works – Fourth Edition incorporating the corrigenda dated 18 September 2013 – Section II Clause 11 shall apply to all items including those referred to under the “item coverage” parts in this section of the Standard Method of Measurement.</p> | | | | | |
| Carried to Collection \$ | | | | | - | |

SCHEDULE NO. 5
SAFETY INCENTIVE PAYMENT SCHEME

| ITEM | DESCRIPTION | QUANTITY | UNIT | RATE | \$ | ¢ |
|--------------------------|---|----------|------|------|----|---|
| | <p><u>NOTES: (Cont'd)</u></p> <p>c) The quantities in the Payment Items in this Schedule are provisional only. The final quantities shall be measured in accordance with the Contract Document.</p> <p><u>SAFETY INCENTIVE PAYMENT SCHEME (ALL PROVISIONAL)</u></p> <p><u>Task-based Payment (say 50% of the Rate for each task)</u></p> <p>A Provision of a High Risk Activities Management and Execution Plan and the proposed task was fully executed in accordance with the relevant specification</p> <p><u>Performance-based Payment (say 50% of all the tasks in the period covered by the payment)</u></p> <p>B Achievement of the required safety performance, in accordance with the relevant specification</p> | | No. | | | |
| | | | No. | | | |
| Carried to Collection \$ | | | | | | |

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