

**Ref. :** WB(W) 273/32/17  
**Group :** 2, 5, 8

**20 November 2000**

**Works Bureau Technical Circular No. 30/2000**

**Construction Site Safety Manual**  
**Second Updating of Chapters 3 and 12**

**Scope**

This Circular introduces the second updating of Chapter 3 of the Construction Site Safety Manual (Manual) on "Contractual Provisions on Construction Safety"; the fourth stage of the Pay for Safety Scheme to include Design and Build contracts; and the updating of Chapter 12 on the Pay for Safety Scheme.

**Effective Date**

2. This Circular shall take effect on 1 January 2001 and the relevant contractual provisions shall be incorporated in public works contracts for which tenders are to be invited on or after 1 January 2001.

**Effect on Existing Circulars**

3. This Circular revises WBTC No. 14/98. It shall also be read in conjunction with WBTC No. 21/99 on the updating of the Construction Site Safety Manual and WBTC No. 32/99 on the Second Stage of the Independent Safety Audit Scheme. The sample Schedule of Rates in Appendix F of WBTC No. 32/99 is to be replaced by the revised sample contained in Appendix III(b) of revised Chapter 12 contained herein. However, existing contracts which have incorporated the contractual provisions contained in earlier circulars shall follow their adopted provisions.

**Introduction**

4. The present updating includes additions and revisions to Chapters 3 and 12 in the light of experience gained and feedback received during the past years, and also the introduction of further measures to enhance safety on sites.

### Updating of Chapter 3

5. Major revisions/additions to Chapter 3 include:
- (i) the cessation of payment of token allowance to workers who have successfully completed the Labour Department Recognised Green Card course (LDRGC) because the course will become mandatory by early 2001;
  - (ii) the provision of payment of a token allowance to skilled workers who have successfully completed the second day of the trade specific advanced safety training course organised by the Construction Industry Training Authority (CITA);
  - (iii) the revision of the frequency of tool box talks;
  - (iv) the addition of a clause to require contractors to carry out risk assessment for works scheduled to start at least for the following two months; (NB: previously this requirement only applied to contracts which required a safety plan);
  - (v) additional safety precautions to be taken during the lifting of steel reinforcement and precast concrete segments; and
  - (vi) the development, implementation and maintenance of a system of work to deal with the overlapping of the booms of tower cranes during lifting operation.

### Fourth Stage of the Pay for Safety Scheme

6. This Circular extended the Pay for Safety Scheme (PFSS) to include Design and Build contracts. As from the effective date of this Circular, all works contracts, term contracts and Design and Build contracts where safety plans are required, irrespective of whether the contract is Bills of Quantities (BQ) or Schedule of Rates (SOR) based, and which tenders are called on or after 1 December 2000 shall be included in the PFSS.

7. For works contracts and Design and Build contracts to be included in the PFSS, the estimated contract sum shall be \$ 20M and above. For term contracts to be included in the PFSS the total estimated expenditure shall be \$ 50M and above. For contracts where a great portion of the value is on the cost of equipment, the cost of equipment shall be excluded from the estimated contract sum or total estimated value in determining whether the contract should be included in the PFSS. Irrespective of the value of the contract, term contracts solely for maintenance works (e.g. some E&M maintenance contracts) and contracts with duration of 12 months or less shall not be included in the PFSS.

### Updating of Chapter 12

8. Major revisions/additions to Chapter 12 include:
- (i) additional sample BQ covering contracts with values ranging from \$ 25M to \$ 500M;
  - (ii) additional guidelines to assist project officers in preparing contract documents; and
  - (iii) additional guidelines for the administration of payment of the safety items taking into comments made by the Corruption Prevention Department of the Independent Commission Against Corruption; (NB: some of which were already issued to departments vide memo dated 8 July 1999).

### **Revision History of the Manual**

9. The revision history of the Manual is attached in Appendix A for easy reference.

### **Action by copy holders of the Manual**

10. Copy holders of the Manual should insert the updated pages, chapters and appendices which are marked with "Ver.Nov.2000" in their copies of the Manual and remove the superseded sheets in accordance with the Action List in Appendix B.

**(W S Chan)**  
**Deputy Secretary (Works Policy)**

**Revision History of the Public Works Programme Construction Site Safety Manual – November 2000**

Revision	Date	WBTC No.	Affected Chapters	Revision/Amendments
0	1 June 1993	16/93	Chapter 3	First Introduction of Chapter 3
1	22 July 1993	16/93A	Chapter 3	Special Conditions of Contract amended
2	18 July 1993	12/94	Chapter 3	Special Conditions of Tender and Special Conditions of Contract amended, and Particular Specification clauses added
3	12 Oct. 1994	12/94A	Chapter 3	Special Conditions of Tender amended
4	31 May 1995	11/95	Chapters 1, 2 and 4 to 11 added	The whole Manual was issued, i.e. Chapters 1 to 11.
5	2 Oct. 1995	22/95	Chapter 3	Particular Specification clauses on additional mandatory safety measures added
6	4 Mar. 1996	4/96	Chapter 3	Special Conditions of Contract and Particular Specification clauses related to the Pay for Safety Scheme added
7	5 Mar. 1996	5/96	Chapter 3	Special Conditions of Contract and Particular Specification clauses related to the Independent Safety Audit Scheme added
8	11 May 1996	4/96A	Chapter 3	Amendment and addition of Particular Specification clauses promulgated in WBTC No. 4/96
9	13 Aug. 1997	11/97	Chapter 3	Particular Specification clauses on "Labour Department Recognised Green Card" course added
10	15 Sept. 1998	14/98	Chapter 3 amended and chapter 12 added	Replacement of Chapter 3 and introduction of Chapter 12 on the Pay for Safety Scheme
11	1 Sept. 1999	21/99	Chapters 1, 2 and 4 to 11	Revision of Chapters 1, 2 and 4 to 11.
12	20 Nov. 2000	30/2000	Chapters 3 and 12	Revision of Chapters 3 and 12

**Action List for Construction Site Safety Manual – Revision 12 (Ver. Nov.2000)**

**Appendix B**

Ref. No.	Remove	Insert	Brief Description of Amendment	Further action required on other pages
R1	C3-P03 to P08 (Ver.Sep.98)	C3- P03 to P06 (Ver.Nov.2000)	Revise PS clause nos. 3.1.7 and 3.1.8 Delete PS clause nos. 3.1.13 to 3.1.17 which are included in Chapter 12 and revised.	
R2	C3-AIII-P018 to P021 (Ver.Sep.98)	C3-AIII-P018 to P021 (Ver.Nov.2000)	Revise entire PS clause no. 8. Add new PS clause no. 8A on risk assessment	Cross out the remainder of PS clause no. 8(11), 8(12) and 8(13) on C3-AIII-P022 (Ver.Sep. 98)
R3	C3-AIII-P032 &33 (Ver.Sep.98)	C3-AIII-P032 to P036 (Ver.Nov.2000)	Add PS clause nos. 14(15) to 14(20) Add new PS clause no. 15 on electrical safety	Cross out PS clause no. 14(3) which is now relocated to clause no. 15(13)
R4		C3-AIV (Ver.Nov. 2000)	Revise the form for use in connection with Silver Card training	Cross out C3-AIV (Ver.Sep.98)
R5	C3-AVI(a)-P03 & P04 (Ver.Sep.98)	C3-AVI(a)- P03 & P04 (Ver.Nov.2000)	Revise MOM clause nos. xx.12, xx.14 and xx.16(b) on "provide Safety Officers" for works contracts	Cross out MOM clause no. xx.16(b) on C3-AVI(a)-P05
R6	C3-AVI(a)-P09 to P010 (Ver.Sep.98)	C3-AVI(a)-P09 to P011 (Ver.Nov.2000)	Revise MOM on safety training for works contracts	Cross out clause xx.28 and xx.29 on C3-AVI(a)-P08 and the remainder of clause xx.35 on C3-AVI-P011(Ver.Sep.98)
R7	C3-AVI(b)-P02 to P05 (Ver.Sep.98)	C3-AVII(b)-P02 to P05 (Ver.Nov.2000)	Revise MOM clause nos. xx.11, xx.12(b) on "provide Safety Officer" for term contracts	Cross out the first two lines on C3-AVI(b)-P06
R8	C3-AVI(b)-P08 to P011 (Ver.Sep.98)	C3-AVI(b)-P08 to P010 (Ver.Nov.2000)	Revise MOM on safety training for term contracts.	
R9	Chapter 12 (Ver.Sep.98)	Chapter 12 (Ver.Nov.2000) including appendices	Revise the whole chapter to match revisions in Chapter 3 and provide more guidance note on implementation	

Note: 1. PS = Particular Specification and MOM = Method of Measurement

2. Revision Ref. No. R2, R3, R4, R6 and R8 are revisions issued in advance vide WB's memo ref. WB(W)273/32/17 dated 24 July 2000.

# Construction Site Safety Manual

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on the Works or in conjunction with the Contract whether in the employ of the Contractor or his sub-contractor as follows:

<u>Total no. of workers</u>	<u>Minimum no. of full-time Safety Officer</u>
50 to 200	1
201 to 700	2
701 to 1200	3
1200 and above	4

Other factors to be considered in deciding whether a full time or part time Safety Officers needs to be employed include :

- (a) the nature and the complexity of the Works, the number of isolated sites and the potential risks anticipated on Site; and
- (b) the estimated contract sum, e.g. at least one for \$ 100M.

For term contracts, a full time safety officer shall be required in accordance with Particular Specification clause no. 5(2). However, the two factors mentioned above shall be taken into consideration.

If in doubt, the advice of the departmental Safety Adviser should be sought.

3.1.6 For exceptionally complex contracts involving potentially high risk works and with estimated Contract sums of \$ 100M, consideration shall be given to allow a longer tender period for tenderers to develop the Outline Safety Plan.

3.1.7 All works contracts, term contracts, and Design and Build contracts where Safety Plans are required, irrespective of whether the contract is Bills of Quantities (BQ) or Schedule of Rates (SOR) based, and which tenders are called on or after 1 December 2000 shall be included in the Pay for Safety Scheme (PFSS). For works contracts and Design and Build contracts

to be included in PFSS, the estimated contract sum shall be \$ 20M and above. For contracts where a great portion of the value is on the cost of equipment, the cost of equipment shall be excluded from the estimated from the contract sum or total estimated value in determining whether the contract should be included in PFSS. Irrespective of the value of the contract, term contracts solely for maintenance works (e.g. some E&M maintenance contracts) and contracts with duration of 12 months or less shall not be included in PFSS.

- 3.1.8 Selection of contracts in the PFSS for inclusion in the Independent Safety Audit Scheme shall be co-ordinated through the departmental Safety Adviser with the Works Bureau. Contracts selected should be those with construction periods of more than 12 months. Contractual provisions, background and practice note on the first stage and second stage of the Independent Safety Audit Scheme (ISAS) are set out in the Works Bureau Technical Circular Nos. 5/96 and 32/99 respectively.
- 3.1.9 In the preparation of contract documents, the relevant contractual provisions set out in the appendices to this Chapter **shall be incorporated in the contract documents.**
- 3.1.10 For contracts where Safety Plans are not required and therefore not included in the Pay for Safety Scheme, the Special Conditions of Tender (Appendix I), Special Conditions of Contract (Appendix II) and Method of Measurement (Appendix VI) shall not be included. However, the following deletion/amendments to the Particular Specification (PS) clauses are to be incorporated :
- (i) Deletion of PS clause no. 3, 5(4)(d), 8(4), 8(5), 8(7)(e), 8(11), 10 and 11;
  - (ii) Replace the words "Safety Plan" in PS clause nos. 5(4)(b), 5(4)(c), 5(6), 9(1) 9(2) and 13(4)(e) with "Contractor's site safety

obligations set out in the Contract";

- (iii) Replace PS clause no. 9(4)(a) with the following :

"Review of the Contractor's safety and health provisions and measures, safe working procedures and method statements and update of emergency and rescue procedures", and

- (iv) Replace the words "for consideration at each Site Safety Management Committee Meeting" in PS clause no. 13(4) with "for consideration at the monthly progress meeting with the Architect/Engineer\*".

- 3.1.11 For contracts where a Specialist Contractor is employed, the Specialist Contractor shall provide a copy of his Safety Plan to the Contractor. Any discrepancies between the Safety Plan prepared by the Specialist Contractor and that of the Contractor shall be discussed between them and reconciled under the co-ordination of the Contractor. The Site Agent, project manager, Safety Officer and Safety Supervisor of the Specialist Contractor shall also attend the Site Safety Management Committee chaired by the Architect/Engineer\* or his representative.
- 3.1.12 Guidance Notes on PFSS are set out in Chapter 12 of this Manual.
- 3.1.13 A "Checklist for Safety Plan" is attached in Appendix VII to assist the Architect/Engineer\* and his staff in checking the Safety Plan(s) submitted under PS clause no. 3. The checklist is an administrative guideline and should not be included in the contract documents.

(Note : \* delete or amend as appropriate to suit departmental contract arrangements)

## 7 Safety Representatives

- (1) In addition to the Safety Officer and Safety Supervisors, the Contractor shall appoint the foreman or ganger of each labour group or team working on the Site to act as Safety Representative. The Safety Representative shall be responsible for ensuring that the directives from the Contractor, the Safety Officer and Safety Supervisors on safety and health matters are duly carried out, safety practices are adopted and protective clothing and equipment are used by the work force at all times on the Site. Normally, each gang of workers shall have one Safety Representative. He shall be made aware of his responsibilities and the group of workers on the Site whose activities he is required to supervise. Every worker working on the Site shall be made aware of the roles of the Safety Representatives and from which Safety Representative he may seek advice or receive instructions on safety and health matters.
- (2) Safety Representatives shall be clearly identified on the Site by wearing an armband or a safety helmet appropriately marked in Chinese and English.

## 8 Safety Training

- (1) The Contractor shall regularly review the training needs of all persons employed on the Works or in connection with the Contract and prepare a long-term training programme. Each month the Contractor shall submit a proposed training programme to be provided in the next month for the \*Architect/Engineer's approval. It shall contain the topics, dates, venues, the target participants of the proposed training and the names and qualification of the trainers.
- (2) All persons carrying out construction work including general workers, skilled workers, foremen, gangers, drivers and plant operators, who are employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors must have completed the mandatory basic safety training course for the construction industry under the Factories and Industrial Undertakings (Amendment) Ordinance 1999 and hold the relevant valid certificate which shall be referred to hereafter as the Labour Department Recognised Green Card (LDRGC).
  - (2)(A)(i) In addition to clause 8(2) above, skilled workers of specific trades set out below in this sub-clause and who are employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors shall have attended the relevant trade specific Advanced Safety Training Course for Construction Workers (also known as the Silver Card course) organised by the Construction Industry Training Authority (CITA). :
    - painter and decorator
    - carpenter
    - building demolition worker
    - plumber
    - bar bender and fixer
    - worker for external wall installation, plasterer, tiler
    - bamboo scaffolder, working platform installer

Any other recognised courses will be notified by the Architect/Engineer\*.
  - (2)(A)(ii) If the Contractor intends to employ or permit the employment of any skilled workers of trades specified in sub-clause (i) but do not possess the Silver Card that is relevant to the

trade and work in which he/she is working on the Site for the execution of the Works, he shall arrange within 2 working days of such skilled workers commencing work on the Site to attend the course specific to the trade and work in which he/she is employed under the Contract. A skilled worker who passes the test at the end of the course will be awarded with a Construction Industry Silver Card (Silver Card). For the purpose of this Contract, this course shall be referred to hereafter as the "trade specific advanced safety training" course.

- (3) The Contractor shall also ensure that all card holders will carry their LDRGC and Silver Card whilst working on the Site.
- (4) The Contractor shall pay a daily token allowance of \$ 650 to each skilled worker of specified trades as set out in clause (2)(A)(i) above after he or she has successfully completed the second day of the trade specific advanced safety training course and received a Silver Card. He/she will not be paid the token allowance for completing the first day of the two-day Silver Card course, which is the LDRGC course and is a mandatory requirement under the Factories and Industrial Undertaking (Amendment) Ordinance 1999. The skilled worker is responsible for the payment of the course fee. However, the token allowance will not be paid if the second day of the course is attended:
- (i) before the skilled worker starts works on the Site;
  - or
  - (ii) after the skilled worker has left the Site.

At the end of each month, the Contractor shall prepare and submit a certified monthly statement of workers who have successfully completed the trade specific advanced safety training course to the Architect/Engineer\* using the proforma attached in Appendix IV\*\*. Copies of the Silver Card, the original receipts signed by the workers for the receipt of the token allowance and a certified payroll record indicating the trades and salaries of the workers shall be made available for inspection if requested by the Architect/Engineer\*.

(\*\* Amend appendix no. where appropriate)

- (5) The Contractor shall only arrange skilled workers to attend the trade specific advanced safety training course that is relevant to the trades and works in which he/she is employed under the Contract. The Architect/Engineer has a right to disapprove the payment on the trade specific advanced safety training to a skilled worker if he/she is found on the Site and not working for the trades and works in which he/she has received the training.
- (6) (a) All persons employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors shall receive "site specific induction training".
- (b) Site specific induction training and its refresher shall take the form of an one-hour talk conducted by the Safety Officer in accordance with sub-clause 6(e) below.
- (c) The talk shall be conducted as follows:
- (i) Safety Policy 10 mins.
  - (ii) General particulars of the Site 10 mins.
  - (iii) Special characteristics of the Works and inherent hazards on the Site, highlights of particular safety measures and use of personal

	protective equipment	15 mins.
(iv)	Emergency procedures and first-aid facilities	10 mins.
(v)	Reporting of accidents and injury compensation procedures	5 mins.
(vi)	Questions and answers	<u>10 mins.</u>
	total	<u>60 mins</u>

- (d) The Safety Officer shall prepare the talk based on Part II of the "Site Safety & Health Induction Training Manual" published by the Hong Kong Construction Association Ltd.
- (e) An outline of the talk and every update of it shall be provided to the \*Architect/Engineer's Representative for approval. The talk shall be carried out within 2 working days of any such employee commencing work on the Site. Thereafter, he/she shall be given refresher talks at intervals of 6 months depending on the amount of changes to the site condition.
- (f) The Contractor shall ensure that "site specific induction training" talks are carried out by Safety Officers who are competent trainers and have received training on safety training techniques organised by the Hong Kong Construction Association Ltd., CITA or other approved training organisations.
- (7) (a) The Contractor shall provide tool box talks at a frequency of one talk per worker on Site every two weeks commencing from the date of commencement of the Works/Contract Period\* subject otherwise to any change in frequency as may be approved by the Architect/Engineer\*. The Contractor shall also ensure that the topic of every talk given to a worker is relevant to his/her trade and the work that he/she will perform under the Contract and a worker shall attend no more than one talk on the same topic in any two-month period.
- (b) The Contractor shall propose the topics of the tool box talks at a frequency specified in sub-clause (a) having regard to the activities of the Site and the prevailing safety concern at that time. They shall be submitted with the proposed monthly training programme to the Architect/Engineer\* for his approval. The Architect/Engineer\* has the right to disapprove the training programme when the proposed topic is considered not relevant to the trade of the workers or the prevailing work activities. Moreover, the Architect/Engineer can request the Contractor to review the topics to cater for special safety concern.
- (c) The content of the tool box talks shall be based on training kits published by the Hong Kong Construction Association Ltd. (HKCA). Where such a proposed topic is not amongst one of those published by HKCA kits, the Contractor shall develop training kits to a similar standard for approval by the \*Architect/Engineer's Representative.
- (d) The Contractor shall ensure that "tool box talks" are conducted by Safety Officers or Safety Supervisors or gangers who are competent trainers and have received training on safety training techniques organised by the Hong Kong Construction Association Ltd., CITA or other approved training organisations.



- (e) Payment for this item shall be made on a per worker per talk basis based on a frequency of one talk per worker every two weeks subject otherwise to any change in frequency approved by the Architect/Engineer\* and the Architect/Engineer\* being satisfied that the talks have been conducted in accordance with this clause. Any tool box talks conducted in excess of the specified frequency and without approval from the Architect/Engineer\* shall be deemed to have been borne by the Contractor in the rates inserted elsewhere in the Bills of Quantities.
- (8) (not used)
- (9) (not used)
- (10) The Contractor shall prepare attendance records on site specific induction training and tool box talks which shall include the topics and dates of the talks, the names of the trainers, names and trades of the persons receiving the talks and their signatures.
- (11) The Contractor's Site Agent or Safety Officer shall certify the accuracy of attendance records on site specific induction training and tool box talks before they are submitted to the Architect/Engineer\* for payment. If requested by the Architect/Engineer\*, the Contractor shall give at least 24-hour notification on the time and venue of each tool box talk to be held, so that the Architect/Engineer\* could arrange his/her staff to take attendance record for measurement.
- (12) Management and other staff, other than workers, employed on the Works or in connection with the Contract whether in the employ of the Contractor or his sub-contractors shall have received appropriate training on safety and health commensurate with their duties.
- (13) The Contractor shall keep on Site records of all safety training received by his staff including those on refresher training and make them available for inspection by the \*Architect/Engineer's Representative upon request.
- (\*\* Amend appendix no. where appropriate)

## **8A Risk Assessment**

The Contractor shall carry out, review and submit to the Architect/Engineer\* risk assessments for works scheduled to start at least for the next two months. The works shall be broken down into jobs/tasks for hazard identification and evaluation of the level of risk by competent persons. The documentation shall contain the hazards identified, the likelihood and consequence of the hazards occurring, the level of risk thus evaluated, the proposed risk mitigation/control measures and the anticipated residual risks, and identify the respective risk controller. The results of such risk assessments and documentation shall be endorsed by the Safety Officer and the Site Agent. In addition, they shall be incorporated into the Safety Plan or relevant safety working procedures or method statements. In addition, the Contractor shall also maintain an updated register of all risk assessments carried out, and update the relevant safety checklist based on the safety measures recommended in each new risk assessment.

provide secure anchorages for the attachment of safety harnesses/safety belts.

- (9) Permit-to-work systems shall be implemented to control access to hazardous areas or the carrying out of any hazardous operations including, but not limited to, hot work, electrical work, work in confined space, maintenance of material hoist, area or operation liable to release of flammable or toxic liquid or gas, etc.

- (10) All lifting gear including slings, shackles and such like equipment shall be colour coded for identifying lifting gear which require re-inspection or disposal. Details of the colour coding system are given in Appendix V\*\*.

(\*\* amend appendix no. where appropriate)

- (11) All material hoists installed shall be fitted with fail-safe interlocking hoistway gates such that the driving mechanism is operable only when all gates are closed and latched; and hoists shall not be operated manually when one gate is opened. A single channel communication from the user to the operator of the hoist shall also be provided.

- (12) All persons engaged in works with risks of receiving foot injuries including but not limited to pneumatic drilling work and manual handling work shall be provided with safety boots when they are engaged in such works. The cost of provision of safety boots shall be deemed to have been allowed in the Contract Rates. Safety boots shall comply with BS EN 345-Part 1, BS 345-Part 2 or equivalent standards.

- (13) Further to the requirements under the Factories and Industrial Undertakings (Noise at Work) Regulations, the Contractor shall provide approved ear protectors to all persons working on the Site who are exposed to noise level of 90 dB(A) or above.

- (14) The Contractor shall keep a register of all dangerous substances including those hazardous to health which are delivered to and stored for use on the Works. The register shall include information on :

- (a) their physical and chemical properties,
- (b) hazards,
- (c) safe handling and storage,
- (d) precautionary measures to be taken, and
- (e) first aid measures,

extracted from the manufacturers' material safety data sheets.

- (15) Receptacles with full containment on four sides to prevent the falling out of materials shall be used for the lifting and transportation of reinforcement links, stirrups, short pieces of splice or reinforcement U-bars, couplers and the like. The safe working load shall be marked on the receptacle after being tested by a competent

examiner. The colour coding system for lifting gear shall also apply to these receptacles.

- (16) The lifting of reinforcement bars shall be by the use of wire slings. No cradles shall be used for the lifting of reinforcement bars unless they are properly designed and with their safe working load certified.
- (17) Roads and footways below suspended precast concrete/steel segments or the like, shall be closed until such time the segments are secured in their permanent locations unless measures are taken to the \*Architect/Engineer's satisfaction to prevent the segments from falling in the event of the failure of the equipment used to suspend the segments. The Contractor shall seek approval from the relevant authorities for the closure of the concerned sections of roads and footways. Adequate measures including the use of barricades and warnings shall be provided to ensure that no person shall inadvertently enter the area below any suspended segments.
- (18) Construction vehicles and plant used on Site shall be equipped with audible signals on reversing. Other form of warning signals and/or banksman shall be provided as necessary to guide such reversing movements if audible signals are causing nuisance to nearby residents particularly at night. For quarry operations, no person shall operate or drive any mechanical equipment at or near the edge of any face, side, tip or embankment in a quarry unless a banksman is in attendance.
- (19) Where there are more than one tower cranes operating within the Site and there is a possibility of overlapping crane movements, the Contractor shall develop, implement and maintain a safe system of work to prevent the overlapping of tower cranes lifting operation. The system shall include, but not limited to, the following:
- the provision of a warning system in the form of light and/or sound to alert the crane operator of the approach of cranes in the overlapping area;
  - the appointment of Overlapping Area Lapping Supervisor (OALS) to co-ordinate and control the lifting operation in the overlapping area or the provision of an automatic control device to prevent the occurrence of overlapping situation;
  - the provision of adequate buffer zone on both sides to slow down the slewing movement of cranes so as to prevent a sudden stop which might induce an inertia to the moving load; and
  - regular inspection and maintenance of the warning system and automatic control device.
- Appropriate measures shall also be implemented to address the possible overlapping crane movement for a mobile crane movement and a tower crane operating within the Site.
- (20) The Contractor shall actively organise safety promotional activities to promote and enhance the

standards of health and safety on the Site. In addition, the Contractor shall also participate in other territory-wide safety promotional campaigns as instructed by the Architect/Engineer\*.

## 15 Electrical Safety

- (1) A Registered Electrical Worker (REW) of the appropriate grade under the Electricity Ordinance (EO) shall be employed by the Contractor throughout the Contract to handle the entire temporary electrical systems and installations on the Site.
- (2) Upon completion of the temporary electrical system (TES) and after each alteration/repair to the existing TES, the Contractor shall arrange his REW/Registered Electrical Contractor (REC) under the EO to complete an individual Work Completion Certificate (WR1) as required by the Code of Practice for the Electricity (Wiring) Regulations (COP) issued by the Electrical and Mechanical Services Department. If a REC is not employed, the Contractor shall then assume the responsibilities of a REC and sign on the WR1 together with the REW employed by the Contractor as per Code No. 19B(d) of the COP. Each of such Certificates shall include a circuit diagram clearly indicating which portion(s) of the TES is/are covered, and, where appropriate, other necessary supporting documents.
- (3) Temporary electrical installations, such as lighting fittings, distribution boards, socket outlets, plugs and cable couplers in outdoor or damp environment shall be of splash-proof type to IP 54 or above.
- (4) The sheath of all electric portable cables shall be of heavy-duty type or otherwise adequately protected against mechanical damage if laid on ground. They shall be hung overhead as far as possible. Ordinary PVC cables, if employed, shall be enclosed in metallic conduits or trunkings and properly maintained.
- (5) The Contractor shall develop checklists for carrying out regular routine inspections and checking and monthly comprehensive checking of the TES. The checklists shall be developed by the Contractor and agreed by the Architect/Engineer's\* Representative. Comprehensive checking shall include, but not be limited to, checking of temporary generators, functional test of earth leakage circuit breakers, integrity of cables and connections, measurement of earthing resistance and those items listed in Checklists Nos. 3 and 4 of the COP where appropriate. The checklist should be signed by the REW after each inspection and/or checking.
- (6) Adequate precautionary measures shall be adopted to ensure safety during inspection, repair and maintenance of the temporary electrical installations including the use of permit-to-work system and/or lock-off system. The Contractor shall establish and review regularly the maintenance programme and logging system for the TES.
- (7) The Contractor shall keep and maintain updated circuit diagrams, WR1 (complete with supporting documents) and records of inspection and checking of the TES by REW/REC in a dedicated file for inspection by the

Architect/Engineer's site supervisory staff upon request.

- (8) During weekly safety walks and when requested by the \*Architect/Engineer's site supervisory staff, the Contractor shall open the cover plates of temporary electricity distribution boards for inspection of the conditions of the internal wiring and/or carry out testing immediately. Updated schematic circuit diagram shall also be affixed inside the cover of the temporary distribution boards.
- (9) All temporary electrical distribution boards shall be kept locked and accessible only by authorized persons appointed by the Contractor, e.g. REW and/or general foreman. Legible warning notices (Danger - Electricity) in both Chinese and English, names and telephone numbers of such authorized persons shall be posted on the temporary distribution boards.
- (10) For work carried out in occupied buildings, unless prior approval has been obtained and proper and safe arrangement has been made, the Contractor shall not connect his fixed electric equipment directly to any existing permanent distribution boards. Such connection shall only be made through temporary distribution boards equipped with proper protective devices.
- (11) All arc welding machines and electrode holders shall comply with BS 638 : Part 7, IEC 60974 - 1 (or BS EN60974 - 1) and BS EN 60974 - 11 or equivalent standards. The welding machines should be fitted with no-load voltage reducing device for protection against electric shock at the output side. Welding machines shall be enclosed and the metal casing shall be effectively connected to earth. Cable terminals of the welding machines shall be effectively insulated.
- (12) All hand-held electrical tools and portable equipment (e.g. submersible pumps), whether they belong to the Contractor or his sub-contractors, Nominated Sub-contractor or Specialist Contractors under domestic sub-contract, shall be examined by the REW before they are used on Site. The examination shall include visual inspection for the general conditions of the tools and equipment and also tests for checking the functional, protective conductor continuity, polarity and insulation aspects. After passing the examination, all hand-held tools and equipment shall be registered and recorded. Identification labels showing the registration number, type of the tool, name of the owner and date of examination stamped with the Contractor's company chop shall be affixed to these tools and equipment. Re-examination of the registered hand-held tools shall be carried out at 3-month intervals or each time after repairs to damages.
- (13) Voltage in excess of 110V shall only be used for heavy equipment such as hoists, tower cranes, etc. with an earth leakage circuit breaker installed and in proper function. Portable and hand-held tools and temporary site lighting shall be operated at a voltage of 110V or less supplied from a step-down transformer with its output winding centre-tapped to earth and comply with BS 3535 : Part 2 : 1990 or equivalent. All cables shall be terminated within the transformer enclosure of Class I and IP 55 and the outgoing circuit shall be provided with short circuit protection. In confined

and damp environment, the voltage of temporary lighting and hand-held tools shall not exceed 25V.

(Note : Clause 14(3) on C3-AIII-P030 to P031 to be crossed out.)

Appendix IV

**Monthly Statement of Trade Specific Advanced Safety Training for Skilled Workers (Silver Card)**

(for the month of \_\_\_\_\_)

Contract Number : \_\_\_\_\_ Department \_\_\_\_\_  
Contract Title : \_\_\_\_\_  
Contractor : \_\_\_\_\_

Name of Worker		Silver Card			Remarks
in English	in Chinese	Trade of Worker	Serial No.	Date of Issue	

Prepared by : \_\_\_\_\_ Checked by : \_\_\_\_\_  
(Name of Safety Officer) (Name of Site Agent)

Signature : \_\_\_\_\_ Signature : \_\_\_\_\_

Date : \_\_\_\_\_ Date : \_\_\_\_\_









*Itemisation* xx.33 Separate items shall be provided for "Provide Safety Training" in accordance with General Principles paragraphs 3 and 4 and the following :

Group	Feature
I	1. Provide safety training in the form of
II	1. Trade specific advanced safety training 2. Site specific induction training 3. Tool Box Talks
III.	1. Skilled workers

*Provide safety training in the form of trade specific advanced safety training to skilled workers* xx.34 The items for "provide safety training in the form of trade specific advanced safety training to skilled workers" shall, in accordance with General Preambles paragraph 2, include for :

*Item coverage*

- (a) arranging skilled workers to attend trade specific advanced training course organised by the Construction Industry Training Authority or any other recognised courses notified by the Architect/Engineer\*.
- (b) payment of the token allowance to skilled workers;
- (c) preparation of training programme and records, and submission of certified monthly statements to the Architect/Engineer\*;
- (d) administration in connection with (a), (b) and (c) above.

*Provide safety training in the form of site specific induction training* xx.35 The items for "provide safety training in the form of site specific induction training" shall, in accordance with General Preambles paragraph 2, include for :

*Item coverage*

- (a) site specific induction training talks conducted in accordance with PS clause ( ).

- (b) the necessary facilities, trainers and demonstration equipment for complying with (a) above,
- (c) preparation of the training programme and records, submission of certified monthly statements to the Architect/Engineer\*,
- (d) administration in connection with (a), (b) and (c) above.

*Provide safety training in the form of tool box talks*      xx.36

The items for "provide safety training in the form of tool box talks" shall, in accordance with General Preambles paragraph 2, include for :

*Item coverage*

- (a) tool box talks conducted in accordance with Particular Specification clause (    ),
- (b) the necessary training of Safety Supervisors, foremen or gangers to conduct such talks.
- (c) basing such talks on kits published by the Hong Kong Construction Association Ltd. or kits of comparable standard approved by the \*Architect/Engineer's Representative,
- (d) preparation of training programme and records, submission of certified monthly statements to the Architect/Engineer\*,
- (e) administration in connection with (a), (b), (c) and (d) above.

(\* delete or amend as appropriate to suit departmental contract arrangements )

- xx.04 *Item Description* Complete Safety Plan
- xx.05 *Measurement* The unit of measurement shall be in 'item'.

The item for "complete Safety Plan" shall be measured when the Engineer/Maintenance Surveyor\* is satisfied that the Safety Plan has been completed and it meets all requirements of the Contract at the time of its completion and copies distributed.

- xx.06 *Item coverage* The item for "complete Safety Plan" shall include for :
- (a) develop and complete the Safety Plan based on the draft Safety Plan and taking into account comments given by the Engineer/Maintenance Surveyor\* or any other parties;
  - (b) distribute the Safety Plan to all relevant parties.

- xx.07 *Item Description* Updating of Safety Plan

- xx.08 *Measurement* The unit of measurement shall be in 'month'.

The item for the "updating of Safety Plan" shall be measured for the period of time commencing from the completion of the Safety Plan until the date of substantial completion of the last Works Order or an earlier or later date notified by the Engineer/Maintenance Surveyor\*.

No measurement shall be made for the "updating of Safety Plan" for any period of time in which the Contractor fails to discharge any of its contractual obligations in respect of reviewing, revising or updating the Safety Plan.

- xx.09 *Item coverage* The item for the "updating of Safety Plan" shall include for :

- (a) review, update and revise the Safety Plan taking also into account of comments made on the Safety Plan by the Engineer/Maintenance Surveyor\* and any other parties;
- (b) update risk assessment for the work scheduled at least for the next two months;
- (c) review and establish safety and health provisions, safe working procedures and method statements;
- (d) update emergency and rescue procedures;
- (e) distribute the revisions of the Safety Plan to all relevant parties.

**PROVIDE SAFETY OFFICER**

xx.10 *Item Description* Provide Safety Officer

xx.11 *Measurement* The unit of measurement shall be in 'number-month'.

The item for "provide Safety Officer" shall be made from the date of appointment of the Safety Officer as approved by the Engineer/Maintenance Surveyor\* or the date on which the Safety Officer commences his duty on the Site whichever is the later. No measurement shall be made for any Safety Officer employed by the Contractor over and above the number of Safety Officers required under Particular Specification clause no. ( ).

No measurement shall be made after the date of substantial completion of the last Works Order or an earlier or later date notified by the Engineer/Maintenance Surveyor\*.

No measurement shall be made for any period of time in which the Safety Officer fails to discharge any of his duties.

xx.12 *Item coverage* The item for "provide Safety Officer" shall include for :

- (a) submission to the Engineer/Maintenance Surveyor\* for approval of the qualifications and experience of the proposed Safety Officer;
- (b) provision of sufficient number of Safety Officers in accordance with Particular Specification clause no. ( ) and supporting staff to the Safety Officers;
- (c) performance of all duties of the Safety Officer,
- (d) maintenance of the safety diary.

**SITE SAFETY COMMITTEE AND SITE SAFETY MANAGEMENT COMMITTEE**

xx.13 *Item Description* Attend Site Safety Committee

xx.14 *Measurement* The units of measurement shall be in 'month'.

The measurement shall commence from the date of the first meeting of the Site Safety Committee until the substantial completion of the last Works Order or an earlier or later date notified by the Engineer/Maintenance Surveyor\*.

No measurement shall be made for any month in which the Contractor fails to hold or attend any such Committee meeting in accordance with the Contract or fails to deal with any of the matters associated

with such Committee in a satisfactory manner.

xx.15 *Item coverage* The items for "attend Site Safety Committee" shall include for :

- (a) establish the Site Safety Committee;
- (b) arrange and give adequate notice to relevant parties of the Site Safety Committee meeting to be held for that month;
- (c) attendance at Site Safety Committee meetings;
- (d) completion and distribution of minutes of meetings.

xx.16 *Item Description* Attend Site Safety Management Committee

xx.17 *Measurement* The units of measurement shall be in 'month'.

The measurement shall commence from the date of the first meeting of the Site Safety Management Committee until the substantial completion of the last Works Order or an earlier or later date notified by the Engineer/Maintenance Surveyor\*.

No measurement shall be made for any month in which the Contractor fails to hold or attend any such Committee meeting in accordance with the Contract or fails to deal with any of the matters associated with such Committee in a satisfactory manner.



- deficiencies noted in the safety provisions;
- (c) preparing reports on safety walks and safety inspections conducted;
  - (d) implement and upkeep all measures stipulated in the Safety Plan and maintain the effectiveness of all such provisions for the duration of the Contract;
  - (e) safety inspections including, but not be limited to:
    - (i) scaffolding;
    - (ii) temporary electrical supply;
    - (iii) site cleanliness;
  - (f) implement the decisions and recommendations made by the Site Safety Management Committee on matters of safety and health.

PROVIDE SAFETY TRAINING

- xx.22 *Item Description* Provide trade specific advanced safety training to skilled workers
- xx.23 *Measurement* The units of measurement shall be in 'number' .
- The measurement for "provide trade specific advanced safety training to skilled workers" shall be paid on a per worker basis subject to the production of a "Silver Card" issued by the Construction Industry Training Authority as evidence in accordance with Particular Specification clause ( ). The payment shall be made for attending the second day of the two-day trade specific advanced safety training course. No measurement will be made if the second day of the course is attended:
- (a) before the skilled worker starts works on Site; or
  - (b) after the skilled worker has left the Site.
- xx.24 *Item coverage* The item for "provide trade specific advanced safety training to skilled workers" shall include for :
- (a) arranging skilled workers to attend the "Silver Card" training course organised by the Construction Industry Training Authority or any other recognised courses notified by the Engineer/Maintenance Surveyor\*.
  - (b) payment of the token allowance to skilled workers;
  - (c) preparation of training programme and records, and submission of certified

monthly statements to the Engineer/Maintenance Surveyor\*;

(d) administration in connection with (a), (b) and (c) above;

xx.25 *Item Description* Provide site specific safety induction training

xx.26 *Measurement* The units of measurement shall be in 'number'.

The measurement for "provide site specific induction training" shall be made on a per person per talk basis. Measurement shall also be made for refresher talks required by the Contract.

Adjustment to or no measurement for the item on "provide site specific induction training" will be made if the \*Engineer/Maintenance Surveyor's Representative is dissatisfied with the frequency, arrangements, numbers certified, relevance or quality of such training and the Contractor cannot provide any justification acceptable to the \*Engineer/Maintenance Surveyor's Representative.

xx.27 *Item coverage* The item for "provide site specific safety induction training" shall include for :

(a) site specific safety induction talks conducted in accordance with Particular Specification clause ( ),

(b) the necessary facilities, trainers and demonstration equipment for complying with (a) above,

(c) preparation of the training programme and records, submission of certified monthly statements to the Engineer/Maintenance Surveyor\*,

(d) administration in connection with (a), (b) and (c) above.

xx.28 *Item Description* Provide tool box talks

xx.29 *Measurement* The unit of measurement shall be in 'number'.

The measurement for "provide tool box talks" shall be made on a per worker per talk basis based on a frequency of one talk per worker every two weeks in accordance with Particular Specification clause ( ).

Adjustment to or no measurement for "provide tool box talks" will be made if the \*Engineer/Maintenance Surveyor's Representative is dissatisfied with the

frequency, arrangements, numbers certified, relevance or quality of such talks and the Contractor cannot provide any justification acceptable to the \*Engineer/Maintenance Surveyor's Representative.

xx.30 *Item Coverage*

The item for "provide tool box talks" shall include for :

- (a) tool box talks conducted in accordance with Particular Specification clause ( ),
- (b) the necessary training of Safety Supervisors, foremen or gangers to conduct tool box talks,
- (c) basing such talks on training kits published by the Hong Kong Construction Association Ltd. or other training kits of comparable standard approved by the Engineer/Maintenance Surveyor's Representative,
- (d) preparation of training programme and records, submission of certified monthly statements to the Engineer/Maintenance Surveyor\*,
- (e) administration in connection with (a), (b), (c) or (d) above.

(\* delete or amend as appropriate to suit departmental contract arrangements)

## Chapter 12 Pay for Safety Scheme

### 12.1 Background

- 12.1.1 Construction site safety is normally referred to in construction contracts as a general obligation placed upon the Contractor by a combination of a reference to the requirements of the law in the General Conditions of Contract and by some all-embracing preliminaries/preamble wording that expressly transfers as many of the contractual obligations to the Contractor as the law will allow. The Contractor is deemed to have allowed in the tender for the cost of meeting the obligations, but there is no separate, clearly identifiable sum(s) in the tender rates and prices.
- 12.1.2 The result of this situation is that the sum(s) payable for carrying out safety measures cannot be identified, and any failure on the part of the Contractor to perform according to the legal or contractual requirements cannot be valued and the tender price appropriately adjusted to reflect the failure. When money is tight, a contractor may try, to some extent, to "cut corners" on site safety.
- 12.1.3 A Government/industry working group was set up to recommend ways to counter this problem and report to the Works Group Directors Meeting (WGDM).
- 12.1.4 The WGDM at its January 1993 meeting agreed to allow a limited trial in three construction contracts by the inclusion of a schedule of fully specified safety related items, that were pre-priced in the Bills of Quantities (BQ) by the Engineer/Surveyor. These items would be certified and paid to the Contractor, provided the specified activities were satisfactorily performed. Failure to perform would result in no payment for the relevant item(s).
- 12.1.5 The trial scheme involving three contracts was reviewed by the WGDM in April 1995, when it was agreed in principle that the Pay for Safety Scheme (PFSS) should be developed for general use in all BQ based contracts. The second stage of PFSS was promulgated in Works Branch Technical Circular No. 4/96 in March 1996 (now superseded) for inclusion in all non-Airport Core Programme contracts, that were Bills of Quantities based, where a Safety Plan was required and for which tenders were

called after 19 April 1996. The third stage of PFSS was promulgated vide WBTC No. 14/98 dated 15.9.98 to include term contracts which are Schedule of Rates (SOR) based.

- 12.1.6 The objective of PFSS is to remove site safety from the realm of competitive tendering and it has the support of the construction industry.
- 12.1.7 The three contracts in the trial PFSS included the use of a safety checklist to audit the safety performance of the contractors and to certify the payment of the "Safety Audit" item to the Contractor. The checklist was marked by a team comprising two representatives of the Employer, and of the Contractor, plus one independent member. For general use, this is too demanding and is replaced by the Independent Safety Auditing Scheme (ISAS). ISAS runs in conjunction with PFSS. A total of 36 works contracts joined the first stage of ISAS in 1996 promulgated under WBTC No. 5/96. The second stage of ISAS, starting in February 2000, was promulgated vide WBTC No. 32/99 and term contracts are also included.

## **12.2 Guidance Notes on the Administration of PFSS**

- 12.2.1 The present stage (the fourth stage) was promulgated vide WBTC 30/2000 dated 20 November 2000 to include all works contracts, term contracts and Design and Build contracts where safety plans are required, irrespective of whether the contract is BQ or SOR based, and which tenders are called on or after 1 December 2000. For works contracts and Design and Build contracts to be included in PFSS, the estimated contract sum shall be \$ 20M and above, and for term contracts the total estimated expenditure shall be \$ 50M and above. For contracts where a great portion of the value is on the cost of equipment, the cost of equipment shall be excluded from the estimated contract sum or total estimated value in determining whether the contract should be included in PFSS. Irrespective of the value of the contract, term contracts solely for maintenance works (e.g. some E&M maintenance contracts) and contracts with duration of 12 months or less need not be included in PFSS.

Notwithstanding, if contract drafters consider that there

are valid reasons for deviations to the above guidance after taking into consideration the nature, complexity and size of the contract, they shall seek advice from Departmental Safety Advisers and the agreement of the appropriate (D2 or above) officer for such changes.

Preparation of contract documents

- 12.2.2 All appropriate tenders included in PFSS shall include a separate "Site Safety" section in the Bills of Quantities (BQ) or the Schedule of Rates (SOR). Each item should be pre-priced on the basis of a total possible payment to the Contractor of approximately 2% of the estimated Contract Sum/total estimated expenditure, not including the Contingency Sum or any sum for the payment of fluctuations.

The sample BQ in Appendix I(a) to (e) and in Appendix III(a) shall be applicable for works contracts using the GCC for Building Works/Civil Engineering Works/E&M Works based on Bills of Quantities. For lump sum contracts, i.e. those which are not remeasurement contracts, the whole sample BQ shall be marked as "All Provisional".

The sample SOR in Appendix II(a) and Appendix III(b) shall be applicable for term contracts using the GCC for Term Contracts for Building Works/Civil Engineering Works/E&M Works.

The sample SOR in Appendix II(b) shall be used in lump sum works contracts using GCC for Building Works/E&M Works or GCC for Design and Build Contracts based on Schedule of Rates in the following manner:-

A Provisional Sum for "PFSS including Participation in Safety Promotional Campaign" shall be included in the contract document specifying that the contractor will be paid for site safety by the pre-fixed rates and in accordance with the method of measurement as in Appendix "\*\*\*". The sum (determined in accordance with the sample SOR) shall be entered against this Provisional Sum item in the Summary of Tender of the contract document as shown in Appendix II(c), and a SOR prepared in accordance with the sample SOR contained in Appendix II(b) of this Chapter and the Method of Measurement in Chapter 3 of the

Construction Site Safety Manual shall be included in Appendix "\*\*\*". After the contract is awarded, an instruction for the Provisional Sum shall be given by the Architect/Engineer or the Supervising Officer to the contractor to establish and implement the site safety management system required under the contract and the contractor shall be paid accordingly.

For Design and Build contracts that are tendered as lump sum contracts, approximately 5% of the estimated Contract Sum should be considered as the "design" fee. Therefore the remaining 95% of the estimated Contract Sum should be considered as the estimated Contract Sum for the "Works" and the total payment for safety items should be fixed on this basis.

- 12.2.3 Notwithstanding the general rule that the total value of safety items is set at about 2% of the estimated Contract Sum/total estimated expenditure, the price for each item should be realistic even if this means exceeding the 2% guidance. In lower value contracts, this is likely to be inevitable. In very high value contracts or very simple ones, something less than 2% may be appropriate. The 2% guidance is based on advice from the construction industry, and is supported by a study carried out by HK Polytechnic University.
- 12.2.4. The prices placed against the items for very high value contracts also need special attention. The rates in the BQ/SOR items (except those on safety training) could be adjusted to suit the circumstances of the Works (size, complexity etc.) and the sample BQ and SOR are meant to be for reference only. A chart showing the guidance on safety price level is attached in Appendix IV for guidance.
- 12.2.5 The following points should be noted in preparing the BQ :
- (i) The rates for "provide safety training" are fixed and should not be adjusted upwards or downwards, but the quantities can be adjusted in accordance with the size, complexity and nature of works under the contract.
  - (ii) A provisional sum is to be included in the BQ/SOR for works contracts/Design and Build contracts to encourage the contractor to participate in safety

promotional campaign as instructed by the Architect/Engineer. This is to enable public works contracts to participate in territory-wide safety campaigns co-organised by the Labour Department, the Occupational Safety and Health Council and other related bodies. When such territory-wide safety campaigns are organised, the Works Bureau will notify works departments and the Architect/Engineer shall issue a Variation Order to instruct this item. The same arrangement is also applicable to term contract, however the Architect/Engineer will instruct this item through a Works Order.

- (iii) The item on "Attendance on Safety Auditor" is subject to competitive tender and a rate is to be inserted by the Contractor.

12.2.6 In the preparation of contract documents for works contracts/term contracts/Design and Build contracts included in the Pay for Safety Scheme, the following particular points should be noted :

- (i) a warning to tenderers should be attached on the outside cover of the Bills of Quantities (BQ)/Schedule of Rates (SOR) for works contracts/term contracts included in PFSS, which shall include :-

**"This BQ/SOR\* includes a section, "Site Safety". All items in it are pre-priced or inserted by the Contractor. The sums set out in the BQ/SOR\* for "Site Safety" will only be paid if the Contractor demonstrates compliance with the specifications for these items. Tenderers are advised to study carefully the contractual requirements related to the Pay for Safety Scheme and the further safety measures stipulated in the Particular Specification."**

- (ii) For Design and Build contracts, in addition to the warning set out in (i) above, a schedule of rate for "site safety" section shall be prepared by the Supervising Officer and included in the tender documents. A Note for Tenderers shall also be included in the tender documents drawing the tenderer's attention that they are required to include the above-mentioned schedule of rate prepared



by the Supervisor Officer in the tender to be submitted.

- (iii) Except for term contracts with rates to be inserted by the Contractor, the following Note should be added to the Form of Tender of a term contract :

**"The Section/Group\* Percentage and Adjustment Percentage/Overall Adjustment Percentage\* applicable to the Schedule of Rates of Section/Group\* ( ) on Site Safety are fixed at 0% and hence the Contract Percentage for Section/Group\* ( ) is also fixed at 0%. Tenderers shall not amend the Section/Group\* Percentage, Adjustment Percentage/Overall Adjustment Percentage\* and Contract Percentage for Section/Group\* ( )."**

- (iv) a weighting factor of 2% or lower in accordance with Appendix IV of Chapter 12 of this Manual should be entered against the Site Safety Section in the table on Schedule of Percentages included in the appendix to the Form of Tender of a term contract except for those term contracts with rates to be inserted by contractors.

- (v) the following clause should be added to the Conditions of Tender clause of term contracts (except for those term contracts with rates to be inserted by contractors) which stipulates how mistakes are to be corrected during the examination of a tender of a term contract:

**"If a tenderer has amended the Section/Group\* Percentage, Adjustment Percentage/Overall Adjustment Percentage\* and Contract Percentage which are fixed, such amendment(s) will be disregarded."**

- 12.2.7 With respect to the weekly safety walk required under PS clause no. 11# in Appendix III to Chapter 3 of the Construction Site Safety Manual which applies to term contracts, it is noted that a vast number of Works Orders may have been issued to the contractor and Works are being carried out in multiple locations, it is therefore not possible for the safety walk to cover every active part of the Site. As such it will be up to the \*Architect/Engineer's nominated site representative to select the part of the Site to be visited on the day of the safety walk. It should be

noted that the safety walks are in addition to the site safety inspections carried out in connection with the preparation of the site safety inspection report each week by the Safety Officer for each Works Order with an estimated value in excess of \$ 100,000 or similar requirements required by the Contract and/or any other daily or regular safety inspections required by the Factories and Industrial Undertakings (Safety Officers and Safety Supervisors) Regulations. The preparation of the site safety inspection report each week by the Safety Officer required by the Contract quoted above is just an example of a practice adopted by some works departments, other departments may adopt different practices. Therefore additional sub-clauses to such effect should be included under PS clause no. 13 on reporting in Appendix III to Chapter 3.

12.2.8 In calculating liquidated damages (LD) for works contracts, Architects/Engineers will in general make use of empirical formulas expressing components of LD as percentages of the estimated contract sum including preliminaries and price fluctuation payment but excluding contingencies and daywork. For the avoidance of doubt, the value of safety items should be excluded from the estimated contract sum for the purpose of assessing LD. This is because payment for safety items are made to the contractor contingent upon their complying with contractual requirements. At the time of preparing the contract, it is not certain whether payment for those safety items will be made and therefore could not be estimated for inclusion in the pre-estimate of LD.

12.2.9 For contracts selected for inclusion in ISAS, the following should also be included in the warning to tenderers:

"The tenderers are also advised to acquire detailed knowledge of the Independent Safety Audit Scheme and the Works Bureau Safety Auditing System on the aspects to be audited and how those aspects shall be assessed. If the safety audit report indicates that the Contractor's scores in both the safety management system and the implementation of the Safety Plan on Site are 70% or above, payment will be made to the "safety audit" item in the Bills of Quantities. If either the scores in the safety management system or the implementation of the Safety Plan is below 60%, the Contractor will receive an "Adverse" Report on Contractors Performance."

- 12.2.10 The items are generally marked "provisional" in order to cater for the Contractor over-running the time for completion. This is not necessary for remeasurement contracts. Payment will continue to be made (if justified) throughout the construction period even if the Contractor is in culpable delay. The purpose is to reward site safety properly carried out.
- 12.2.11 Payment is certified in the usual way. If the "work" is completed as specified, then include for payment. Contractors are expected to maintain safety during the period of delay and be paid under PFSS. Also there shall not be any reduction in safety payments for sectional completion of the Works. If the contract is one subject to payment for price fluctuation, then the "Site Safety" bill is also subject to the same.
- 12.2.12 Some safety items are one off, but most are monthly payments. The ISAS "Safety Audit" item is paid quarterly. The items are generally independent of each other, but some safety items are reliant upon one another for satisfactory compliance e.g. it is not possible to have a Safety Audit without the Safety Plan being available, but safety committee meetings and training can be carried out and certified.
- 12.2.13 The "Safety Audit" item is valued and managed differently from the other safety items and is included only by agreement with the Occupational Safety and Health Council (OSHC). Audits under the ISAS are carried out on a three monthly cycle. Payment for the ISAS "Safety Audit" item will depend upon the Accredited Safety Auditor's report. If the report indicates that the scores in both the Contractor's safety management system and the implementation of the Safety Plan on Site are 70% or above, payment will then be certified in the next interim payment. No payment will be made if the score in either one of the two aspects is below 70%. Furthermore, if either one of the scores is below 60% the Contractor shall be given an "Adverse" quarterly performance report and such results shall be reported to the Works Bureau Safety Unit. However the BQ item, "Attendance on Safety Auditor", is to be paid irrespective of the outcome of the audit itself and whether the Safety Audit item is paid or not.

#### Administration and Payment

- 12.2.14 The Architect/Engineer should comment on the adequacy of the

Safety Plan at the commencement stage of the contract. Advice could be sought from Departmental Safety Adviser where appropriate. Thereafter the Contractor shall review and update the Safety Plan. Payment of the item on the "Updating of Safety Plan" should only be made upon satisfactory coverage of all the obligations as stated in the item coverage. In addition, the Particular Specification clause on the agenda of the Site Safety Management Committee (SSMC) meetings include the requirement to review the Safety Plan and update risk assessments for works scheduled to be carried out for the following two months. The Contractor shall be asked to report at the SSMC meeting on the outcome of his review and the revisions which he has made. Such review and revision should also include method statement and safe working procedures for current and forthcoming tasks as and when considered necessary by the SSMC in the last meeting. The SSMC meeting should also consider the adequacy of such review and revisions and point out any deficiencies which should have been made for that month. After that, the Contractor should be asked to complete and submit any outstanding revisions to the Architect/Engineer prior to certifying payment.

Notwithstanding the above, there may be situations that in some small contracts or contracts where works are repetitive in nature that the necessity to update risk assessments could be nil and revisions may be limited to changes in the safety organisation or contact telephone numbers. In such case, payment for this item should also be made if the Chairman of the SSMC agrees with the Contractor on the outcome of his review that no significant revisions to the Safety Plan are necessary. A note to such effect should also be made in the minutes of the SSMC meeting. It should be noted however that there are always rooms for improvements, thus the Contractor should be encouraged to carry out a review of the Safety Plan.

- 12.2.15 For the item on "provide Safety Officer", if the contract warrants the employment of a part-time Safety Officer, then the Safety Officer should be asked to sign on the Site Diary kept in the Site Office whenever he arrives or leave the Site. This is to check that the total time spent per week will not be less than the number of hours stipulated in the Contract, exclusive of the time spent in attending the Site Safety

Committee and the Site Safety Management Committee. At the end of each month, the site staff should check that the time requirement is complied with before certifying payment. The most senior staff on site shall spot check the Site Diary on the attendance of the part-time Safety Officer. Apart from attendance on site, whether the Safety Officer has performed his duties and obligations stipulated in the Contract should also be checked before certifying payment.

- 12.2.16 For the item on "attend Site Safety Management Committee", payment should be made after the completion of items listed in the item coverage and not just after the meeting has been held. If there are items identified in the meeting for follow-up actions after the meeting, these items shall be recorded in the minutes. Payment for these items should only be made after checking that the follow-up actions have been completed. However, it should not be mixed up with outstanding action items identified during the weekly safety walk. Sometimes, certain follow-up actions may take a longer period than one month to complete, e.g. procurement of materials and approval of temporary traffic scheme. Under such circumstances, the minutes of the meeting shall record the agreed completion date(s) for enabling the payment. The same principle should be applied to item on "attend the Site Safety Committee".
- 12.2.17 For term contracts, the Site Safety Management Committee (SSMC) shall be chaired by the Architect/Engineer\* or one of his representative in the professional rank or above. The Architect/Engineer\* shall also appoint another officer to be the secretary of the SSMC. In view of the fact that many officers are authorised to issue Works Orders to a term contractor, it may not be possible for all of them to attend the SSMC. The Chairman of the SSMC shall determine the most appropriate composition of the SSMC for communication and reporting on the Contractor's safety performance in the SSMC meetings. The determination of appropriate representatives in the SSMC shall be based on the nature and/or the majority of works orders issued to the term contractor.
- 12.2.18 For the item on "arrange and attend weekly safety walk", the Contractor shall be asked to prepare and use the comprehensive check-list stipulated in P.S. clauses 11(2) and 11(3) during the safety walk. The contents of the

comprehensive check-list could be discussed and agreed with the Contractor before use and subsequently modified to suit the prevailing activities of the site. More than one comprehensive checklist may need to be prepared by the Contractor to suit the variety of works at various portions of the Site. To ensure that follow-up action on outstanding items are completed, the last page of the check-list should contain at least the basic information as shown in Appendix V. A copy of this "follow-up action check-list" shall be signed by both parties at the end of the safety walk. The second copy shall be submitted to the Architect/Engineer or his/her Representative once the Safety Officer confirms and signs that all actions are completed. Payment will only be made after the Contractor has completed all the rectification/improvement measures within the agreed completion dates, normally before the next weekly safety walk. The Contractor's Safety Officer and Site Agent or his representative shall carry out the safety walk with the Architect/Engineer's nominated representative who should be of the rank of Assistant Inspector of Works or /Assistant Clerk of Works or above.

12.2.19 For some contracts it may not be able to inspect every active part of the Site during the safety walk. As such it will be up to the Architect/Engineer's nominated site representative to select the part of the Site to be visited on the day of the safety walk. For the joint site inspection to be conducted prior to the meeting of the Site Safety Management Committee, it could be conducted either on the day before the meeting or in the morning if the meeting is held in the afternoon.

12.2.20 For items on "provide safety training", Contractors are required to submit a programme on proposed training to be provided in the next month for the approval of the Architect/Engineer's Representative. The proposed programme is also one of the items to be discussed at the SSMC meeting. The Contractor shall be asked to propose a training programme including site specific training and tool box talks to be provided in the next month for consideration at the meeting. It shall contain the topics, dates, venues, the target participants of the proposed training, the names and qualification of the trainers.

After approval of the proposed training programme, payment will be made against the certified records submitted by the Contractor. Whilst LDRGC/Silver Card courses are carried out at CITA or other approved training centres, random checks should be made to check that "site specific induction training" or "tool box talks" have been conducted as proposed. For terms contracts, after approving the proposed programme, the Maintenance Surveyor/Engineer shall then issue covering Works Orders to the Contractor for the safety training.

- 12.2.21 The measurement for 'provide safety training' shall be paid on a per person per *talk* basis subject to verification of the certified monthly statement of workers who have completed the training. Measurement shall also be made for refresher training required by the contractor.
- 12.2.22 The Architect/Engineer's Representative shall be entitled to adjust the numbers if dissatisfied with the frequency, arrangements, numbers certified, relevance or quality of the site specific induction training and tool box talks and the Contractor cannot provide any justification acceptable to the Architect/Engineer's Representative.
- 12.2.23 For contracts where token allowances are to be paid for LDRGC training, payment of the token allowance to the workers completing the general safety induction training shall be based on the "LDRGC" being produced as evidence. To prevent workers claiming the token allowance from more than one contracts, the Architect/Engineer shall forward the Proforma on 'Monthly Statement of General Safety Induction Training for Workers' submitted by contractors to their departmental Safety Advisory Units (DSAU) by the 10th day of the following month. The DSAUs shall then send copies of the statements to the Safety Unit of Works Bureau (WB) together with the Construction Site Accident Statistics by the 20th of the following month. Any necessary deduction of payment already made will be notified by WB for necessary action by the Architect/Engineer. For PFSS contracts tendered on or after 10 July 2000, similar action is required with respect to the payment of token allowance to skilled workers for successful completion of the second day of the trade specific

"Construction Industry Silver Card" course.

- 12.2.24 The Architect/Engineer shall keep a record of non-payment of site safety items. Repeated non-compliance shall be brought to the attention of the senior management of the Contractor and duly reflected in the Report on Contractors' Performance. For the control of expenditure, the Architect/Engineer should maintain a register of quantities and the sums certified, in particular those on safety training. If the quantities and/or the total sum certified are close to the sums allowed, the Architect/Engineer should then make arrangement to apply for an increase in the contract sum if required.



## Appendices to Chapter 12

- Appendix I(a) - Sample Bill of Quantities for works
  - (b) contracts included in PFSS
  - (c)
  - (d)
  - (e)
  
- Appendix II(a) - Sample Schedule of Rates for term contracts included in PFSS
  
- Appendix II(b) - Sample Schedule of Rates for lump sum works contracts included in PFSS
  
- Appendix II(c) - Sample Summary of Tender for lump sum works contracts included in PFSS showing how the Provisional Sum is included
  
- Appendix III(a) - Sample Bill of Quantities for works contracts included in both PFSS and ISAS
  
- Appendix III(b) - Sample Schedule of Rates for term contracts included in both PFSS & ISAS
  
- Appendix IV - Chart showing "Guidance on Safety Price Level"
  
- Appendix V - Construction Safety Inspection Checklist, Summary of Follow-up Actions

## Appendix I(a) - Sample Bill of Quantities for works contracts included in PFSS

Based on \$ 25M contract value over 2 years

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	5,000	5,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	7,500	7,500
C	Updating of Safety Plan	24	nth	500	12,000
D	Provide Safety Officer	24	nr-mth	12,000	288,000
E	Attend Site Safety Management Committee	24	nth	600	14,400
F	Attend Site Safety Committee	24	nth	600	14,400
G	Arrange and attend weekly safety walk	104	nr	1,500	156,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	50	nr	650	32,500
I**	Provide safety training in the form of site specific induction training	180	nr	100	18,000
J**	Provide safety training in the form of tool box talks	2,000	nr	40	80,000
K***	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		30,000
Total to Collection Sheet					657,800

## Notes:-

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rate for items H, I and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 25M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- nth month
- nr number
- nr-mth number-month

## Appendix I(b) - Sample Bill of Quantities for works contracts included in PFSS

Based on \$ 50M contract value over 2 years

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	10,000	10,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	15,000	15,000
C	Updating of Safety Plan	24	nth	1,000	24,000
D	Provide Safety Officer	24	nr-mth	18,000	432,000
E	Attend Site Safety Management Committee	24	nth	1,200	28,800
F	Attend Site Safety Committee	24	nth	1,200	28,800
G	Arrange and attend weekly safety walk	104	nr	3,000	312,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	100	nr	650	65,000
I**	Provide safety training in the form of site specific induction training	350	nr	100	35,000
J**	Provide safety training in the form of tool box talks	4,000	nr	40	160,000
K***	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		30,000
Total to Collection Sheet					1,140,600

## Notes:-

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rate for items H, I and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 50M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- nth month
- nr number
- nr-mth number-month

## Appendix I(c) - Sample Bill of Quantities for works contracts included in PFSS

Based on \$100M contract value over 2 years

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	24	nth	2,000	48,000
D	Provide Safety Officer	24	nr-mth	20,000	480,000
E	Attend Site Safety Management Committee	24	nth	2,000	48,000
F	Attend Site Safety Committee	24	nth	2,000	48,000
G	Arrange and attend weekly safety walk	104	nr	7,500	780,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	nr.	650	130,000
I**	Provide safety training in the form of site specific induction training	700	nr	100	70,000
J**	Provide safety training in the form of tool box talks	7,000	nr	40	280,000
K***	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		30,000
Total to Collection Sheet					1,964,000

## Notes:-

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rate for items H, I and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 100M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- nth month
- nr number
- nr-mth number-month

## Appendix I(d) - Sample Bill of Quantities for works contracts included in PFSS

Based on \$ 200M contract value over 2 years

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	24	mth	3,000	72,000
D	Provide Safety Officer	48	nr-mth	22,500	1,080,000
E	Attend Site Safety Management Committee	24	mth	3,000	72,000
F	Attend Site Safety Committee	24	mth	3,000	72,000
G	Arrange and attend weekly safety walk	104	nr	15,000	1,560,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	300	nr	650	195,000
I**	Provide safety training in the form of site specific induction training	1200	nr	100	120,000
J**	Provide safety training in the form of tool box talks	12,000	nr	40	480,000
K***	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		60,000
Total to Collection Sheet					3,761,000

## Notes:-

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rate for items H, I and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 200M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- mth month
- nr number
- nr-mth number-month

## Appendix I(e)- Sample Bill of Quantities for works contracts included in PFSS

Based on \$ 500M contract value over 3 years

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	30,000	30,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	40,000	40,000
C	Updating of Safety Plan	36	nth	3,500	126,000
D	Provide Safety Officer	96 <sup>#</sup>	nr-mth	22,500	2,160,000
E	Attend Site Safety Management Committee	36	nth	3,500	126,000
F	Attend Site Safety Committee	36	nth	3,500	126,000
G	Arrange and attend weekly safety walk	156	nr	20,000	3,120,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	500	nr	650	325,000
I**	Provide safety training in the form of site specific induction training	1500	nr	100	150,000
J**	Provide safety training in the form of tool box talks	18,000	nr	40	720,000
K***	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		100,000
Total to Collection Sheet					7,023,000

## Notes:-

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rate for items H, I and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 500M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- nth month
- nr number
- nr-mth number-month
- # assuming two Safety Officers for 36 months and one for 24 months

## Appendix II(a) - Sample Schedule of Rates for term contracts included in PFSS

Based on total estimated expenditure of \$100M over 2 years

Item No.	Description	Quantity#	Unit	Scheduled Rate	Amount#
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	24	nth	2,000	48,000
D	Provide Safety Officer	24	nr-mth	20,000	480,000
E	Attend Site Safety Management Committee	24	nth	2,000	48,000
F	Attend Site Safety Committee	24	nth	2,000	48,000
G	Arrange and attend weekly safety walk	104	nr	7,500	780,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	nr	650	130,000
I**	Provide safety training in the form of site specific induction training	700	nr	100	70,000
J**	Provide safety training in the form of tool box talks	7,000	nr	40	280,000
K#	Participate in safety promotional campaign as instructed by the Architect/Engineer* (Provisional Sum)		sum		30,000
Total to Collection Sheet					1,964,000

## Notes:-

- (\*) The words in brackets are for guidance only and should not be entered in the Schedule of Rates.
- \*\* The rates for items H, I, and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 100M, but the quantities can be adjusted in accordance with the content of works under that contract.
- # The shaded columns and item K are for illustration purpose and should not be included in the Schedule of Rates. Item K is to be issued via a Works Order.
- nth month
- nr number
- nr-mth number-month

## Appendix II(b) - Sample Schedule of Rates for lump sum works contracts included in PFSS

Based on total estimated expenditure of \$100M over 2 years

Item No.	Description	Quantity#	Unit	Scheduled Rate	Amount#
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	24	mth	2,000	48,000
D	Provide Safety Officer	24	nr-mth	20,000	480,000
E	Attend Site Safety Management Committee	24	mth	2,000	48,000
F	Attend Site Safety Committee	24	mth	2,000	48,000
G	Arrange and attend weekly safety walk	104	nr	7,500	780,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	nr	650	130,000
I**	Provide safety training in the form of site specific induction training	700	nr	100	70,000
J**	Provide safety training in the form of tool box talks	7,000	nr	40	280,000
K#	Participate in safety promotional campaign as instructed by the Architect/Engineer*		sum		30,000
Total to Collection Sheet					1,964,000

## Notes:-

(\*) The words in brackets are for guidance only and should not be entered in the Schedule of Rates.

\*\* The rates for items H, I, and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 100M, but the quantities can be adjusted in accordance with the content of works under that contract.

# The shaded columns and item K are for illustration purpose and should not be included in the Schedule of Rates.

mth month

nr number

nr-mth number-month



**Appendix II(c) – Sample Summary of Tender for lump sum works contracts included in PFSS showing how the Provisional Sum is included**

	Page	\$	¢
1. SPECIFICATION PRELIMINARIES		( )*	
2. SCHEDULE OF RATES (to be submitted by the Contractor)			
Section A – Contractor’s Designed piled Foundations		( )*	
Section B – Contractor’s Designed Pile Caps and Strap Beams		( )*	
Section C – Ancillary Work		( )*	
3. PROVISIONAL SUM			
Provide the following sum to be expended in part or in whole as directed by the Architect/Engineer*or wholly deducted from the Contract Sum if not required.			
Provide the Provisional Sum of \$ 1,964,000 for establishing and implementing the site safety management system including participating in safety promotional campaign as required under the Contract. The Contractor shall be paid in accordance with the Method of Measurement and the pre-fixed rates for the items included in the Schedule of Rates for PFSS in Appendix "***" to the Specification.	sum	***1,964,000	00
4. CONTINGENCY SUM			
Contingency Sum	sum	**2,000,000	00
<b>TOTAL CARRIED TO FORM OF TENDER</b>		\$	

Note :

\* Amount to be inserted by the tenderer

\*\* Amount fixed by the Architect/Engineer/Supervising Officer for the Contract

\*\*\* This sum shall match with that in the SOR (prepared in accordance with the sample SOR in Appendix II(b)) and provided to the tenderers.

**Appendix III(a) - Sample Bill of Quantities for works contracts included in  
both PFSS and ISAS**

**Based on \$100M contract value over 2 years**

Item No.	Description	Quantity	Unit	Rate	Amount
A	Complete draft Safety Plan (not >1.0% of the estimate of total safety payment)*	-	Item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	Item	30,000	30,000
C	Updating of Safety Plan	24	Mth	2,000	48,000
D	Provide Safety Officer	24	nr-mth	20,000	480,000
E	Attend Site Safety Management Committee	24	Mth	2,000	48,000
F	Attend Site Safety Committee	24	Mth	2,000	48,000
G	Arrange and attend weekly safety walk	104	Nr	4,000	416,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	Nr	650	130,000
I**	Provide safety training in the form of site specific induction training	700	Nr	100	70,000
J**	Provide safety training in the form of tool box training	7,000	Nr	40	280,000
K***	Participate in safety promotional campaign as instructed by the Architect/Engineer* (Provisional Sum )		Sum		30,000
L	Safety audit (Approx 25% of estimate of the total safety payments )*	8	Nr	60,000	480,000
M+	Attendance on Safety Auditor	8	Nr		
Total to Collection Sheet					2,080,000

Notes:

- ( )\* The words in brackets are for guidance only and should not be entered in the Bills of Quantities.
- \*\* The rates for items H, I, and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 100M, but the quantities can be adjusted in accordance with the content of works under that contract.
- \*\*\* The amount for item K is fixed and should not be adjusted.
- + Rate for item M to be inserted by the Contractor
- mth month
- nr number
- nr-mth number-month

## Appendix III(b) - Sample Schedule of Rates for term contracts included in both PFSS and ISAS

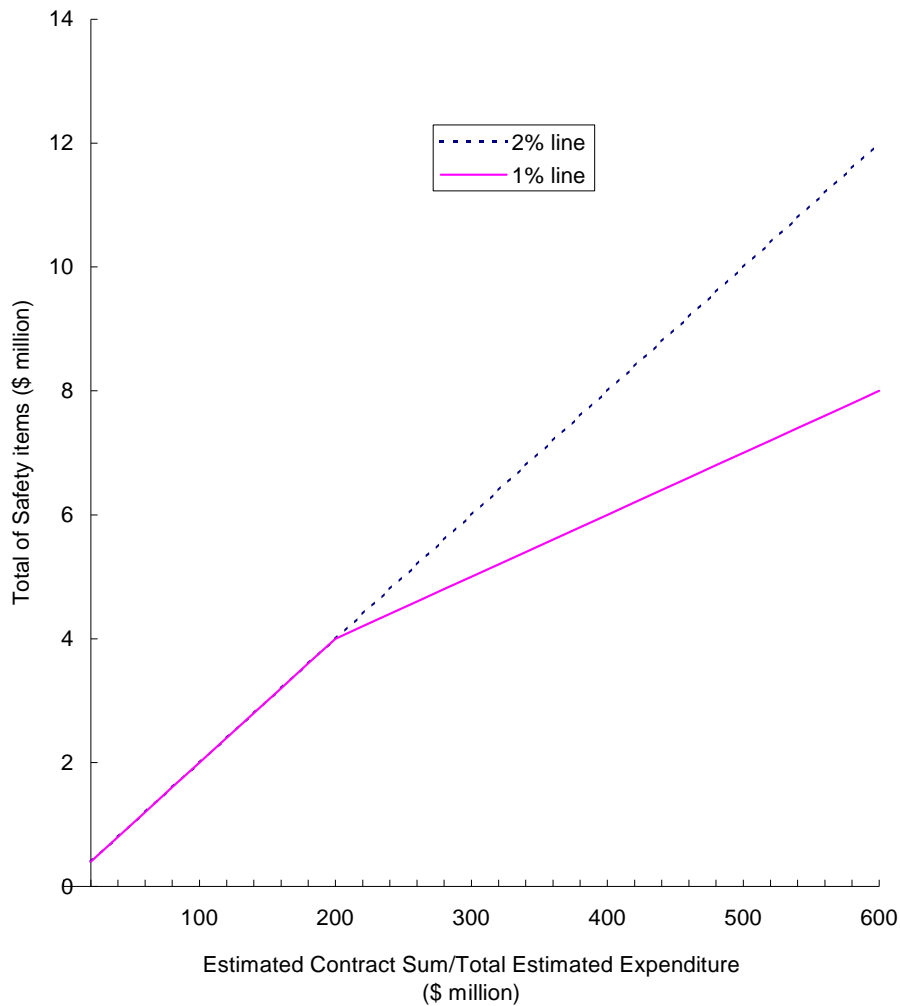
Based on total estimated expenditure of \$ 100M over 2 years

Item No.	Description	Quantity#	Unit	Scheduled Rate	Amount#
A	Complete draft Safety Plan (not > 1.0% of the estimate of total safety payment)*	-	item	20,000	20,000
B	Complete Safety Plan (not > 1.5% of the estimate of total safety payment)*	-	item	30,000	30,000
C	Updating of Safety Plan	24	mth	3,000	72,000
D	Provide Safety Officer	24	nr-mth	20,000	480,000
E	Attend Site Safety Management Committee	24	mth	2,000	48,000
F	Attend Site Safety Committee	24	mth	2,000	48,000
G	Arrange and attend weekly safety walk	104	nr	4,000	416,000
H**	Provide safety training in the form of trade specific advanced safety training to skilled workers	200	nr	650	130,000
I**	Provide safety training in the form of site specific induction training	700	nr	100	70,000
J**	Provide safety training in the form of tool box talks	7,000	nr	40	280,000
K	Safety Audit (Approx. 25% of estimate of the total safety payments)*	8	nr	60,000	480,000
L+	Attendance on Safety Auditor	8	nr	2,000+	16,000
M#	<u>Provisional Sum</u> Participate in safety promotional campaign as instructed by the Architect/Engineer		sum	30,000	30,000
Total to Collection Sheet					2,120,000

Notes:-

- (\*) The words in brackets are for guidance only and should not be entered in the Schedule of Rates.
- \*\* The rates for items H, I, and J are fixed and should not be adjusted upwards or downwards even if the value of the contract is greater than or below \$ 100M, but the quantities can be adjusted in accordance with the content of works under that contract.
- # The shaded columns and item M (a provisional sum item) are for illustration purpose and should not be included in the Schedule of Rates.
- + this item is to be placed in the Section for "preliminary" items and its rate is to be subject to competitive tendering by the Contractor; for term contracts with rates to be inserted by the Contractor, the rate of \$ 2,000 should be omitted and the Contractor allowed to insert his own rate in the schedule.
- mth month
- nr number
- nr-mth number-month

### Appendix IV - Guidance on Safety Price Level



Note:

1. For Estimated Contract Sum/Total Estimated Expenditure between \$ 20 M and \$ 200 M, total of safety items = 2 % of Estimated Contract Sum/ Total Estimated Expenditure.
2. For Estimated Contract Sum/Total Estimated Expenditure > \$ 200 M, total of safety items = \$ 4.0M + (Estimated Contract Sum/Total Estimated Expenditure - \$ 200M) x 1 %

Construction Safety Inspection Checklist

Summary of Follow-up Actions

**Part I :**

Contract No. \_\_\_\_\_ Contract Title \_\_\_\_\_

Date of Inspection \_\_\_\_\_ Time \_\_\_\_\_

Person(s) making the inspection :

	<u>Name in Block Letters</u>	<u>Designation</u>	<u>Organisation</u>	<u>Signature</u>
1.		Site Agent		
2.		Safety Officer		
3.				
4.				

Item No.	Location	Situation requiring follow-up action	Agreed Due Date for Completion	Date Completed	Remarks

To be signed at the end of inspection

Architect/Engineer or his representative \_\_\_\_\_ Safety Officer \_\_\_\_\_

**Part II :** (To be countersigned after ALL actions are completed)

Safety Officer \_\_\_\_\_ Architect/Engineer or his representative \_\_\_\_\_

Date \_\_\_\_\_ Date \_\_\_\_\_

(Note: No payment will be made for the "Weekly Safety Walk" item under PFSS contracts if any one of the follow-up actions is completed after the "Agreed Due Date for Completion".)