

**Approval Conditions
for Operating
Mandatory Safety Training Courses**

Part II – Module 4

Course Design and Specifications

For

- (A) Training Course for New Operators of Loadshifting Machine**
- (B) Training Course for Experienced Operators of Loadshifting Machine**
- (C) Revalidation Training Course for Operators of Loadshifting Machine**

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Inquiry

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1. Overview

- 1.1 The terms and abbreviations adopted in this module follow those defined in Part I. This module is Part II – 4 of the AC which covers 3 loadshifting machine operator training courses, i.e. 2 full courses and 1 revalidation course. This module should be read together with Part I of this AC.
- 1.2 The LD has introduced loadshifting machine training in specified industries by enacting the Factories and Industrial Undertakings (Loadshifting Machinery) Regulation, (“the Regulation”), Cap 59AG. Under the Regulation, the person operating a specified loadshifting machine should have successfully completed the relevant safety training course and have been issued with a relevant certificate. In this regard, the CL is empowered by the Regulation to recognise the following safety training courses.
- (A) Training Course for New Operators of Loadshifting Machine (“full course (New Operator)”);
 - (B) Training Course for Experienced Operators of Loadshifting Machine (“full course (Experienced Operator)”); and
 - (C) Revalidation Training Course for Operators of Loadshifting Machine (“revalidation course”).
- 1.3 Procedures for application for course recognition are stipulated in the GN. Applicant who wishes to run any full course or revalidation course should submit an application to the CL for course recognition.
- 1.4 Unless stated otherwise, requirements stated in this module are applicable to any full course and revalidation course.
- 1.5 TCP should ensure that the course materials used should comply with the requirements of this module.
- 1.6 The objective of the full course is to provide appropriate knowledge

and skills to operators of loadshifting machine to enhance or reinforce their occupational safety and health awareness and prevent work accidents and occupational diseases in connection with the operation of the particular type of loadshifting machine. The trainees will be issued with a certificate upon successful completion of the course.

1.7 Revalidation course aims to provide refresher training to holders of operator certificates, which are expired or expiring, so as to enhance or reinforce their occupational safety and health awareness and prevent work accidents and occupational diseases in connection with the operation of the particular type of loadshifting machine. Upon successful completion of the course, the trainee will be issued with a new certificate.

1.8 At the end of **any** full courses, the trainees should be able to:

1.8.1 Describe the basic legal requirements prescribed under relevant safety legislation applicable to the operation of the type of loadshifting machine;

1.8.2 Understand the construction, performance, maintenance and operation of the type of loadshifting machine;

1.8.3 List potential hazards and their preventive measures in relation to the operation of the type of loadshifting machine;

1.8.4 Analyse possible causes of accidents associated with the type of loadshifting machine and ways/means of preventing such accidents;

1.8.5 Demonstrate appropriate skills necessary to operate relevant loadshifting machine safety;

1.8.6 Demonstrate the necessary safety attitude to safeguard themselves and other workers while operating the particular type of loadshifting machine; and

1.8.7 Grasp the types, purposes, correct selection procedures and the proper use of personal protective equipment commonly used.

1.9 At the end of revalidation course, the trainees should be able to:

1.9.1 Describe the basic legal requirements prescribed under

- relevant safety legislation applicable to the operation of the type of loadshifting machine;
- 1.9.2 List potential hazards and their preventive measures in relation to the operation of the type of loadshifting machine;
- 1.9.3 Analyse possible causes of accidents associated with the type of loadshifting machine and ways/means of preventing such accidents;
- 1.9.4 Describe the typical/alarming accidents (including causes and related preventive measures) associated with the operation of loadshifting machine, in particular those occurred during the five years preceding the conduct of the course;
- 1.9.5 Describe new technological advancements and developments in work procedures or equipment usage associated with the operation of loadshifting machine, particularly those that occurred during the five years preceding the conduct of the course; and
- 1.9.6 Grasp the types, purposes, correct selection procedures and the proper use of personal protective equipment commonly used.

2. Admission criteria

- 2.1 Full course (New Operator) is run for trainee who
- does not possess experience in operating the particular type of loadshifting machine and not hold a relevant operator certificate, or
 - possesses a relevant operator certificate which has expired for more than 3 months.
- 2.2 Full course (Experienced Operator) is run for trainee who-
- possesses prior knowledge and experience in operating the particular type of loadshifting machine (required experience specified in column 4 of the table at **Annex 3** and gained not contravene to the Regulation) but without holding a relevant operator certificate, and his/her experience has to be verified in writing by the employers that the applicant has actively

engagement in the operation of the particular type of loadshifting machine in specified years of working; or

- possesses a relevant operator certificate which has expired for more than 3 months.

2.3 A TCP should ensure that applicant to be admitted to a revalidation course should-

- at the time of application, be holding a relevant operator certificate which either will expire within 6 months or has expired for not more than 3 months; and
- fulfill the following experience requirement for renewal of the certificate preceding application and attendance of the course, and the applicant's experience has to be verified in writing by the employers that the applicant has actively engagement in the operation of the particular type of loadshifting machine in specified years of working.

(i) Current employer's certification showing that the operator has operated the type of loadshifting machine for at least 6 working days; or

(ii) One and a half years' experience in operating the type of loadshifting machine in the past 5 years; or

(iii) 6 months' experience in operating the type of loadshifting machine in the preceding year.

2.4 A TCP should ensure that trainee admitted to its full course (new operator), full course (experienced operator) and revalidation course has attained the age of 18 years.

3. Qualifications of trainer

3.1 A TCP should ensure that its trainer should at least possess the specified qualifications stipulated in **Annex 1**.

4. Trainees to trainer ratio

- 4.1 A TCP should ensure that the maximum ratio of trainees to trainer of each type of loadshifting machine training course should be strictly followed the specifications stipulated in column 3 of the table at **Annex 2**.

5. Class size

- 5.1 A TCP should ensure that the maximum size of a class of each type of loadshifting machine training course should be strictly followed the specifications stipulated in column 4 of the table at **Annex 2**.

6. Course duration

- 6.1 A TCP should ensure that the minimum course duration of full course (New Operator) should not be less than the number of days specified in column 3 for the type of loadshifting machine in column 2 of the table at **Annex 3**, and it should include reasonable time distribution between theory session and practical session, a written examination session of 30 minutes (examination of non-standardised part of course content), a practical examination session of 30-60 minutes and a total of not more than 30 minutes recess time per day.
- 6.2 A TCP should ensure that the minimum course duration of full course (Experienced Operator) should not be less than the number of days specified in column 4 for the type of loadshifting machine in column 2 of the table at **Annex 3**, and it should include 1 day in theory session and other day(s) for practical session, a written examination session of 30 minutes (examination of non-standardised part of course content), a practical examination session of 30-60 minutes and a total of not more than 30 minutes recess time per day.

6.3 A TCP should ensure that the minimum course duration of revalidation course should not be less than the number of days specified in column 5 for the type of loadshifting machine in column 2 of the table at **Annex 3**, and it should include a written examination session of 30 minutes (examination of non-standardised part of course content) and a total of not more than 15 minutes (half-day course) or 30 minutes (one-day course) recess time.

6A. Course duration of standardised part of course content

6A.1 Without prejudice to the generality of course duration under section 6.1, a TCP should ensure that a theory session, a written examination session and a review of examination paper session for the standardised part of course content of full course (New Operator) should be included as a part of the course duration as stipulated at **Annex 4**.

6A.2 Without prejudice to the generality of course duration under section 6.2, a TCP should ensure that a theory session, a written examination session and a review of examination paper session for the standardised part of course content of full course (Experienced Operator) should be included as a part of the course duration as stipulated in **Annex 4**.

6A.3 Without prejudice to the generality of course duration under section 6.3, a TCP should ensure that a theory session, a written examination session and a review of examination paper session for the standardised part of course content of revalidation course should be included as a part of the course duration as stipulated in **Annex 5**.

7. Attendance

7.1 A TCP should ensure that any trainee who is absent from the theory class for more than 15 minutes for any half-day sessions will be disqualified to attend the examination.

8. Lesson plan

8.1 Subject to section 8A, a TCP should devise and submit the lesson plan(s) of course(s) applied for recognition to the CL for approval.

8A. Lesson plan for standardised part of course content

8A.1 A TCP should ensure that the standardised part of course content of full course (New Operator) and full course (Experienced Operator) should be taught in accordance with the lesson plan stipulated at **Annex 4**.

8A.2 A TCP should ensure that the standardised part of course content of revalidation course should be taught in accordance with the lesson plan stipulated at **Annex 5**.

9. Course content

9.1 Subject to section 9A, a TCP should ensure that the course materials used should include all the topics and details stipulated at **Annex 6**. The TCP should also supplement additional materials in accordance with the needs of the trainees and the latest safety information. The course content should be submitted to the CL for prior approval.

9A. Standardised part of course content

9A.1 A TCP should ensure the course materials used for the standardised part of course content of full course (New Operator) and full course (Experienced Operator) should include all the topics and details stipulated at **Annex 8**. The course content includes the reference teaching time and the additional requirements for the delivery. The TCP should also supplement additional materials in accordance with the needs of the trainees and the latest safety information.

9A.2 A TCP should ensure the course materials used for the standardised

part of course content of revalidation course should include all the topics and details stipulated at **Annex 9**. The course content includes the reference teaching time and the additional requirements for the delivery. The TCP should also supplement additional materials in accordance with the needs of the trainees and the latest safety information.

10. Display, demonstration and practising

- 10.1 A TCP should provide suitable and sufficient equipment (including safety helmet, safety shoes/boots, safety harness with lifeline and fall-arresting device, safety gloves, ear and eye protectors, respirator, portable fire extinguisher etc.) and should ensure that demonstration of the correct use of the above personal protective equipment is provided to its trainees.
- 10.2 A TCP should ensure that the training venue for the practical session of full courses should be sufficient, suitable, safe and appropriate for the type of loadshifting machine.
- 10.3 A TCP should ensure that the loadshifting machine involved in the practical training should comply with all the legal requirements as delineated under the relevant legislation and should be solely used for training during the practical session.

11. Examination

- 11.1 A TCP should ensure that every trainee attending the examination should meet the required attendance and the requirement of completing the hands-on practice.
- 11.2 A TCP should ensure that the trainee should pass the written examination (including the examination of non-standardised part of course content and the examination of standardised part of course content respectively), the practical examination and also perform all

critical skills competently in the practical examination before qualifying him/her to get the certificate.

For examination of non-standardised part of course content

- 11.3 The TCP should submit at least 3 sets of examination papers, each consisting of 20 different multiple-choice questions, their model answers and marking schemes to the CL for approval.
- 11.4 Time allowed for the written examination is 30 minutes and the passing mark is 60%. The time allowed for the practical examination (30 – 60 minutes) and its passing mark may be varied depending on the complexity and the number of critical skills to be examined of the type of loadshifting machine involved.

11A. Examination of standardised part of course content

- 11A.1 Without prejudice to section 11.3, a TCP should ensure that the examination papers of standardised part of course content used are issued and specified by LD.
- 11A.2 A TCP should provide the answer sheet at **Annex 10** to the trainee for the examination.
- 11A.3 A TCP should ensure that the invigilator and the trainee should sign on the answer sheet.
- 11A.4 Without prejudice to section 11.4, time allowed for the examination of standardised part of course content is 10 minutes and the passing mark is 60%.
- 11A.5 A TCP should arrange the examination of non-standardised part of course content to be conducted immediately after the examination of standardised part of course content.

12. Validity period of certificate

- 12.1 A TCP should ensure that the validity period of operator certificate issued for fork-lift truck is 10 years while the validity period of operator certificate issued for other types of loadshifting machine is 5 years.
- 12.2 For full course (New Operator) and full course (Experienced Operator), validity period of the certificate should be counted from the date when the trainee successfully completes the course.
- 12.3 For revalidation courses, validity of the certificate should be counted from the day—
- 12.3.1 immediately after the expiry date of the current certificate if the revalidation course is successfully completed within 6 months prior to expiry of the current certificate, or
 - 12.3.2 of completing the revalidation course if the revalidation course is successfully completed within 3 months after expiry of the current certificate.

13. Standard certificate format

- 13.1 A TCP should ensure that the front side of a loadshifting machine operator certificate should be designed with the required words, in the format as shown in **Figure 1** and according to the specifications below. The reverse side is left to the TCP to include other information as appropriate, which should be commensurate with the purpose of the certificate.

Figure 1: Required Words and Design Format of the Front Side of Loadshifting Machine Operator Certificate

操作(指明負荷物移動機的種類)證明書
Certificate for Operation of (specify type of loadshifting machine)
工廠及工業經營(負荷物移動機械)規例
Factories and Industrial Undertakings (Loadshifting Machinery) Regulation

持證人姓名 Holder's Name
(中文) :
(English) :

編號 Reference No. :

完成課程日期 Date of Course Completion :
(日日/月月/年年年年) (dd/mm/yyyy)

有效期限 Validity Period : 由 From 至 To 止
(日日/月月/年年年年) (dd/mm/yyyy)

本證明書由 [某發證機構] 簽發
Issued by [provider of recognised training course]

此證明書須由持證人擁有及保存。
This certificate is owned and should be kept by the certificate holder.



(not to scale)

- 13.1.1 The certificate should be made of durable materials, either laminated or plastic, and in standard size of 85 mm x 55 mm;
- 13.1.2 A photograph (minimum size of not less than 20 mm x 25 mm) of the trainee should be incorporated into the certificate for easy identification;
- 13.1.3 For laminated card, the corner of the trainee's photo should be stamped with the TCP's company's chop;
- 13.1.4 For plastic card, the trainee's photo should be printed on the card;
- 13.1.5 Unless otherwise specified, information on the certificate should be printed in both Chinese and English;
- 13.1.6 The certificate should contain the following information:
 - The name of certificate, i.e. “操作(指明負荷物移動機的種類)證明書” and “Certificate for Operation of (specify type of loadshifting machine)”;
 - The empowering legislation, i.e. “工廠及工業經營(負荷物移動機械)規例” and “Factories and Industrial Undertakings (Loadshifting Machinery) Regulation”;
 - The Chinese and English name as printed on the Hong Kong Identity Card (or equivalent identity documents) of the certificate holder;
 - Reference number of the certificate (an “R” should be appended to the last digit of the reference number to denote that the certificate is issued for a revalidation

- course);
- Date of Course Completion (in the format of DD/MM/YYYY);
 - Validity period with starting date and expiry date (in the format of DD/MM/YYYY);
 - Name of the certificate issuing course provider; and
 - The wordings of “此證明書須由持證人擁有及保存。” and “This certificate is owned and should be kept by the certificate holder.”

14. Training records

14.1 A TCP should submit the record of every certificate issued according to the required details stipulated in Table 1 as well as the name of the course.

Table 1 : Example of Training Records

HKID/ Passport No. (TRT1)	Name of trainee (TRT2)	Class Ref. (TRC1)	Name of Trainer (TRC2)	Date of Course completion (TRC3)	Certificate Effective Date (TRT3)	Certificate Expiry Date (TRT4)	Certificate Serial No. (TRT5)
A123456(1)	Chan Siu On	ABC1	HAU To-si	13/06/2011	13/06/2011	12/06/2016	W396000201R
A123457(2)	Chan Siu Chuen	ABC1	HAU To-si	13/06/2011	23/09/2011	22/09/2016	W396000202R
A123458(3)	Chan Siu Feng	ABC2	HAU To-si	18/06/2011	18/06/2011	17/06/2016	W396000203
A123459(4)	Chan Siu Lin	ABC2	HAU To-si	18/06/2011	18/06/2011	17/06/2016	W396000204

Annex 1

Qualifications of a Loadshifting Machine Training Course Trainer

Type of loadshifting machine	Qualification Requirements	
	^Theoretical Trainer for full course or revalidation course	^Practical Trainer for full course only
All Loadshifting Machines (other than Fork-lift truck, Fork-lift truck (Front Loader) and Locomotive)	QT01, QT02, QT06, QT07 and QT08	QT01, QT02 and QT09
Fork-lift truck	QT01, QT03, QT06, QT07 and QT08	QT09, QT10, QT11, QT12, QT13, QT14 and QT15
Fork-lift truck (Front Loader)	QT01, QT04, QT06, QT07 and QT08	QT01, QT04, QT06, QT09, QT12, QT13, QT14 and QT15
Locomotive	QT01, QT05, QT06, QT07 and QT08	QT01, QT05 and QT09

^ Trainer's qualification codes:

QT01	have successfully completed an acceptable instructional skill training course, such as the certificate course of Basic Instructional Techniques by The Education University of Hong Kong or the certificate course of Occupational Safety and Health Trainer by the Occupational Safety and Health Council ("OSHC") or the certificate course of Effective Site Safety Training and Instructing Techniques Course by the Construction Industry Council ("CIC") or equivalent.
QT02	have 7 years relevant working experience in operating the type of machine.
QT03	have 2 years relevant working experience in operating the fork-lift truck.

QT04	have 3 years relevant working experience in operating the fork-lift truck (front loader).
QT05	have at least 1 year relevant working experience of operating the type of locomotive, and 4 years railway operating experience.
QT06	possess a Continuing Education Diploma in Occupational Safety and Health Practices issued by OSHC or equivalent, or both mandatory basic safety training and a certificate of Safety Supervisor Course issued either by OSHC or CIC or equivalent.
QT07	be familiar with the local safety regulations relating to the operation of the type of loadshifting machine.
QT08	possess sound knowledge relating to the prevention of injuries and property losses in connection with the use of such type of loadshifting machine.
QT09	hold a relevant valid operator certificate for the particular type of loadshifting machine or equivalent.
QT10	have 5 years relevant working experience of operating the fork-lift truck.
QT11	possess a certificate of fork-lift truck instructor issued by OSHC or equivalent.
QT12	possess sound lecturing, instructing and assessment skills.
QT13	able to identify defects and malfunction of the type of loadshifting machine.
QT14	have a good understanding of the construction, performance and limitation of the type of loadshifting machine.
QT15	have skills to conduct basic operational tests on the type of loadshifting machine, e.g. testing of brake system, steering and loading function.

Annex 2**Maximum Trainees to Trainer Ratio and Class Size
for Various Types of Loadshifting Machine Training Courses**

Types of loadshifting machine	Nature of training courses	Maximum trainees to trainer ratio	Maximum class size
Fork-lift truck	Full course (New/Experienced Operator)	30:1 in theory session 3:1 in practical session	30
	Revalidation course	30:1	30
Fork-lift truck (Front Loader)	Full course (New/Experienced Operator)	15:1 in theory session 3:1 in practical session	15
	Revalidation course	15:1	15
Locomotive	Full course (New Operator)	20:1 in theory session 3:1 in practical session	20
	Full Course (Experienced Operator)	30:1 in theory session 3:1 in practical session	30
	Revalidation course	20:1	20
Others	Full course (New/Experienced Operator)	20:1 in theory session 3:1 in practical session	20
	Revalidation course	20:1	20

Annex 3

Course Duration for Various Types of Loadshifting Machine

No.	Type of loadshifting machine	Duration (in days, and should be 7 hours per day, excluding break between half-day sessions and lunch time)		
		Full course (New Operator)	Full course (Experienced Operator)	Revalidation course
1	Fork-lift truck (for each type of Fork-lift trucks)	7	2 (with 1 year experience)	0.5 (3.5 hours)
2	Fork-lift truck (Front Loader)	12	3 (with 1 year experience)	1
3	Bulldozer	13	2 (with 3 years experience)	1
4	Loader	13	2 (with 3 years experience)	1
5	*Mini/Skid Loader	10	2 (with 1 year experience)	0.5 (4 hours)
6	Excavator	50	2 (with 3 years experience)	1
7	Truck	Training for these machines are dependent on training to obtain driving license issued under Road Traffic Ordinance, Cap. 374		
8	Lorry			
9	Compactor	13	2 (with 3 years experience)	1
10	Dumper	13	2 (with 3 years experience)	1
11	Grader	13	2 (with 3 years experience)	1
12	Locomotive (for each type of Locomotives)	6	2 (with 3 years experience)	1
13	Scraper	13	2 (with 3 years experience)	1

* Mini/Skid Loader means a loader with overall length (with bucket) not exceeding 4 M, overall width (with bucket) not exceeding 2 M, the bucket capacity not exceeding 1 M3.

Annex 4

**Lesson Plan for Standardised Part of Course Content of
Training Courses for New Operators and Experienced
Operators of Loadshifting Machine**

Section	Topic & Content	Time (Minutes)
1	Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine	20
2	Handling of Accidents and Dangerous Occurrences and Reporting Procedures	5
3	Commonly Used Personal Protective Equipment	20
4	Written Examination	10
5	Review of the Examination Paper After the Examination	5
Total Time 【 Class+Exam+Review 】		60

Note: The teaching times allocated for Sections 1 to 3 are for reference.

Annex 5

**Lesson Plan for Standardised Part of Course Content of
Revalidation Training Course for Operators of Loadshifting
Machine**

Section	Topic & Content	Time (Minutes)
1	Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine	15
2	Handling of Accidents and Dangerous Occurrences and Reporting Procedures	5
3	Commonly Used Personal Protective Equipment	15
4	Written Examination	10
5	Review of the Examination Paper After the Examination	5
Total Time 【 Class+Exam+Review 】		50

Note: The teaching times allocated for Sections 1 to 3 are for reference.

Annex 6

**Outline of Course Content for Training for Operators of
Loadshifting Machine**

(A) Full Course (New/Experienced Operator)

1. Standardised Part of Course Content at **Annex 8**:
 - Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine
 - Handling of Accidents and Dangerous Occurrences and Reporting Procedures
 - Commonly Used Personal Protective Equipment

(Note: Suitable course content should be selected for interactive discussion with trainees)

2. Detailed construction, performance, maintenance and operation of the type of loadshifting machine.
3. Potential hazards associated with the operation of Loadshifting Machines (**except Locomotive**) should include: (depending on the types of loadshifting machine, some of the following potential hazards may not be applicable)
 - uneven/ unstable terrain
 - power lines
 - trees
 - overhead service lines
 - bridges
 - surrounding buildings
 - obstructions
 - structures
 - facilities
 - adjacent equipment
 - dangerous materials
 - underground services

- recently filled trenches
- performing adjustment, lubrication or maintenance of the machine with its engine started
- checking engine of the machine that has been operated, its radiator, heater or its associated pipes/ lines
- checking conditions of the cooling system and the battery
- refuelling
- accumulation of grease and oil on the machine
- handling of flammable substances such as fuels, lubricants and coolant mixtures
- handling tire inflation
- coordination of different work processes
- working-at-height while mounting and dismounting the machine
- operation on slopes

Potential hazards associated with the **operation of Locomotive** should include:

- permit-to-work system, signalling system and operation of locomotive under the system
- operation of electrical and mechanical system of the locomotive
- operation of communication system
- system authorities and occupation of tracks
- working-at-height operations
- obstructions on tracks
- adjacent equipment
- handling of dangerous materials
- working in confined spaces
- noise and lighting
- operation in inclement weather and emergency conditions
- selection and use of personal protective equipment
- operation of the locomotive exceeding its safe working load/ speed
- stability of the locomotive while loading, unloading and travelling
- selection and use of attachments to the locomotive
- collision of locomotives or associated attachments with other stationary or moving objects

4. Possible causes of and prevention strategies for common accidents associated with the operation of Loadshifting Machines (**except Locomotive**), should include:

- exceeding the safe working load of the machine
- instability of the machine while loading, unloading and travelling
- incorrect choice and use of attachments
- collision of machine or associated attachments with other stationary or moving objects
- injury to those working in the vicinity of the machine
- operating the machine without authorization
- failure to follow the manufacturer's operation guidelines
- vision obstructed when operating the machine
- presence of naked lights, smoking or running of engine during refuelling
- human errors
- personal protective equipment not in place or incorrect use of them
- not conversant with in-house regulations
- improper parking
- improper towing of machine
- harmful or toxic exhaust fumes

Possible causes of and prevention strategies for common accidents associated with the **operation of Locomotive** should include:

- failure of permit-to-work system and signalling system
- break-down of electrical and mechanical system of the locomotive
- failure of communication system
- mal-practice of system authorities and occupation of tracks
- human errors in the operation of the locomotive
- injury to those working in the vicinity of the locomotive
- falling from height
- unsafe system of work for working in confined space
- collision of the locomotive or associated attachments with other stationary or moving objects in the close vicinity
- improper handling of dangerous materials
- unsafe operation in inclement weather and emergency conditions

- exceeding the safe working load/speed of the locomotive
 - instability of the locomotive while loading, unloading and travelling
5. Basic operating skills for all types of Loadshifting Machine (**except Locomotive**) are described in the table at **Annex 7**. Depending on the types of loadshifting machine, some of the skills described in the table may not be applicable.
 6. As locomotive is fundamentally distinct from other types of loadshifting machine, course providers should develop their basic operating skills of the locomotive with reference to the manufacturer's specifications and operation/maintenance manual.
 7. Safety attitude to safeguard themselves as operators of loadshifting machines and other workers while operating the loadshifting machines.

(B) Revalidation course

1. Standardised Part of Course Content at **Annex 9**:

- Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine
- Handling of Accidents and Dangerous Occurrences and Reporting Procedures
- Commonly Used Personal Protective Equipment

(Note: Suitable course content should be selected for interactive discussion with trainees)

2. Detailed construction, performance, maintenance and operation of the type of loadshifting machine.

3. Potential hazards associated with the operation of Loadshifting Machines (**except Locomotive**) should include: (depending on the types of loadshifting machine, some of the following potential hazards may not be applicable)

- uneven/ unstable terrain
- power lines
- trees
- overhead service lines
- bridges
- surrounding buildings
- obstructions
- structures
- facilities
- adjacent equipment
- dangerous materials
- underground services
- recently filled trenches
- performing adjustment, lubrication or maintenance of the machine with its engine started
- checking engine of the machine that has been operated, its radiator, heater or its associated pipes/ lines
- checking conditions of the cooling system and the battery

- refuelling
- accumulation of grease and oil on the machine
- handling of flammable substances such as fuels, lubricants and coolant mixtures
- handling tire inflation
- coordination of different work processes
- working-at-height while mounting and dismounting the machine
- operation on slopes

Potential hazards associated with the **operation of Locomotive** should include:

- permit-to-work system, signalling system and operation of locomotive under the system
- operation of electrical and mechanical system of the locomotive
- operation of communication system
- system authorities and occupation of tracks
- working-at-height operations
- obstructions on tracks
- adjacent equipment
- handling of dangerous materials
- working in confined spaces
- noise and lighting
- operation in inclement weather and emergency conditions
- selection and use of personal protective equipment
- operation of the locomotive exceeding its safe working load/ speed
- stability of the locomotive while loading, unloading and travelling
- selection and use of attachments to the locomotive
- collision of locomotives or associated attachments with other stationary or moving objects

4. Possible causes of and prevention strategies for common accidents associated with the operation of Loadshifting Machines (**except Locomotive**), should include:

- exceeding the safe working load of the machine
- instability of the machine while loading, unloading and travelling

- incorrect choice and use of attachments
- collision of machine or associated attachments with other stationary or moving objects
- injury to those working in the vicinity of the machine
- operating the machine without authorization
- failure to follow the manufacturer's operation guidelines
- vision obstructed when operating the machine
- presence of naked lights, smoking or running of engine during refuelling
- human errors
- personal protective equipment not in place or incorrect use of them
- not conversant with in-house regulations
- improper parking
- improper towing of machine
- harmful or toxic exhaust fumes

Possible causes of and prevention strategies for common accidents associated with the **operation of Locomotive** should include:

- failure of permit-to-work system and signalling system
- break-down of electrical and mechanical system of the locomotive
- failure of communication system
- mal-practice of system authorities and occupation of tracks
- human errors in the operation of the locomotive
- injury to those working in the vicinity of the locomotive
- falling from height
- unsafe system of work for working in confined space
- collision of the locomotive or associated attachments with other stationary or moving objects in the close vicinity
- improper handling of dangerous materials
- unsafe operation in inclement weather and emergency conditions
- exceeding the safe working load/speed of the locomotive
- instability of the locomotive while loading, unloading and travelling

5. Basic operating skills for all types of Loadshifting Machine (**except Locomotive**) are described in the table at **Annex 7**. Depending on the

types of loadshifting machine, some of the skills described in the table may not be applicable.

6. As locomotive is fundamentally distinct from other types of loadshifting machine, course providers should develop their basic operating skills of the locomotive with reference to the manufacturer's specifications and operation/maintenance manual.
7. Safety attitude to safeguard themselves as operators of loadshifting machines and other workers while operating the loadshifting machines.
8. Overview of typical/alarming accidents (including causes and related preventive measures) associated with the operation of loadshifting machine, in particular those occurred during the five years preceding the conduct of the course.
9. Overview of new technological advancements and developments in work procedure or equipment usage associated with the operation of loadshifting machine, particularly those that occurred during the five years preceding the conduct of the course.

Annex 7

**Outline of Skills Associated with the Operation of
Loadshifting Machine (except Locomotive)**

No.	Duties	Specific tasks
1	Conduct routine checks	External check of equipment is conducted in accordance with manufacturer's specifications and operation/maintenance manual or equivalent
		Attachments are inspected to ensure security
2	Plan work	Work area is inspected to identify hazards and appropriate prevention/control measures for the hazards, where identified as mentioned Item 3 at <u>Annex 4</u> , are implemented
		Site/non-site personnel are safeguarded (protected) by a variety of measures, including the erection of barricades and posting of signs consistent with principles of the hierarchy of control
		Working area is inspected to determine appropriate path of movement for loads and machine
		Permits required to carry out the job are obtained from authorized personnel
		<p>Job requirements are confirmed with relevant site personnel, ensuring:</p> <ul style="list-style-type: none"> • determination of appropriate machine for operation, including selection and fitting of attachments • compliance of job with accepted occupational safety and health practices

No.	Duties	Specific tasks
3	Check controls and equipment	<p>Pre-operational and post start-up equipment checks are carried out in accordance with manufacturer's specifications and operation/maintenance manual ensuring:</p> <ul style="list-style-type: none"> • hazards warning systems, for example, lights and horns, are functional • attachment movements and control functions are smooth and comply with operating requirements • start-up conforms with manufacturer's specifications and operation/maintenance manual • communication signals to be used are confirmed with appropriate personnel <p>Defects and damage are reported according to site procedures</p>
4	Shift load (not applicable for compactor)	<p>Material is shifted using appropriate machine</p> <p>Weight of load is assessed to ensure compliance with the specified loadshifting machine capacity</p> <p>Controls and levers are applied to ensure safe and effective operation of machine ensuring:</p> <ul style="list-style-type: none"> • force applied to shift load is appropriate to the material • path of movement is monitored for obstacles and hazards • hazard control measures are selected and applied to ensure safe movement of load <p>Speeds of machine are maintained to safe operating limits</p> <p>Communications are correctly given and interpreted with co-workers and other relevant persons</p> <p>Loads are placed to ensure stability of material and avoidance of hazards on site</p> <p>Emergency procedures are carried out minimizing risk to personnel</p>
5	Shut down machine	<p>Parking to ensure:</p> <ul style="list-style-type: none"> • machine safety locks are in place • implements/attachment to be rendered safe

No.	Duties	Specific tasks
		<p data-bbox="544 315 1437 450">Shut down is conducted in accordance with manufacturer's specifications and operation/ maintenance manual to isolate machine</p> <p data-bbox="544 461 1214 501">Post operational check is complete ensuring:</p> <ul data-bbox="544 510 1315 595" style="list-style-type: none"> <li data-bbox="544 510 1262 551">• minor servicing requirements are carried out <li data-bbox="544 557 1315 595">• defect and damage reported to site requirements
6	Secure site	<p data-bbox="544 611 1094 651">Secure site after operation, ensuring:</p> <ul data-bbox="544 660 1294 840" style="list-style-type: none"> <li data-bbox="544 660 911 701">• access ways are clear <li data-bbox="544 707 1294 748">• machine is away from overhangs/fuelling sites <li data-bbox="544 754 1246 795">• excavations are fenced off and made secure <li data-bbox="544 801 1209 840">• securing against unauthorized movement

Annex 8

Standardised Part of Course Content of Training Courses for New Operators and Experienced Operators of Loadshifting Machine

**Standardised Part of Course Content of
Training Courses for
New Operators and Experienced Operators
of Loadshifting Machine**

Factories and Industrial Undertakings
(Loadshifting Machinery) Regulation



**Occupational Safety and Health Branch
Labour Department**

**The Course Content is prepared by
The Occupational Safety and Health Branch
Labour Department**

This Edition March 2021

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1. Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine.....	1
2. Handling of Accidents and Dangerous Occurrences and Reporting Procedures.....	7
3. Commonly Used Personal Protective Equipment.....	8

Note: Suitable course content should be selected for interactive discussion with trainees.

1. Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine

[Reference teaching time for Section 1: 20 mins]

1.1 Occupational Safety and Health Ordinance and the Subsidiary Regulations (Chapter 509)

Purposes

- To ensure the safety and health of employees when they are at work
- To prescribe the occupational safety and health measures
- To improve the safety and health standards applicable to workplaces
- To improve the safety and health aspects of working environments of employees

Coverage

- This ordinance covers almost all workplaces - places where employees work, including offices, shopping arcades, supermarkets, hospitals, construction sites, etc.
- However, there are a few exceptions, including places where only self-employed persons work and domestic premises where the only employees are domestic servants.
- Every employer must, so far as reasonably practicable, ensure the safety and health at work of all his employees.

Subsidiary Regulations include:

- Occupational Safety and Health Regulation
- Occupational Safety and Health (Display Screen Equipment) Regulation

1.2 Factories and Industrial Undertakings Ordinance and the Subsidiary Regulations (Chapter 59)

- Provide for the safety and health protection to workers in the industrial sector
- Coverage
 - factories
 - construction sites
 - catering establishments
 - cargo and container handling undertakings
 - repair workshops and other industrial workplaces
- **General Duties of Proprietors**

Every proprietor of an industrial undertaking must, so far as is reasonably practicable, ensure the safety and health at work of all persons employed by him. The matters to which that duty extends include:

- providing and maintaining plant and work systems that do not endanger safety or health;
 - making arrangements for ensuring safety and health in connection with the use, handling, storage or transport of plant or substances;
 - providing all necessary information, instruction, training and supervision for ensuring safety and health;
 - providing and maintaining all parts of the workplace and means of access to and egress from the workplace that is safe and without risk to health; and
 - providing and maintaining a working environment that is safe and without risk to health.
- **General Duties of Persons Employed**
 - every person employed at an industrial undertaking must take reasonable care for the safety and health of himself and others; and
 - co-operate with the proprietor of an industrial undertaking to enable any duty or requirement for securing the safety and health of persons employed at the industrial undertaking to be performed or complied with.

Subsidiary Regulations under Factories and Industrial Undertakings Ordinance

- Under the Factories and Industrial Undertakings Ordinance, there are subsidiary regulations covering various aspects of hazardous work activities in factories, building and engineering construction sites, catering establishments, cargo and container handling undertakings and other industrial workplaces. The subsidiary regulations prescribe detailed safety and health standards on work situations, plant and machinery, processes and substances.
- Subsidiary regulations under Factories and Industrial Undertakings Ordinance include Factories and Industrial Undertakings Regulations, Construction Sites (Safety) Regulations, Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations, Factories and Industrial Undertakings (Suspended Working Platforms) Regulation, Factories and Industrial Undertakings (Loadshifting Machinery) Regulation, Factories and Industrial Undertakings (Dangerous Substances) Regulations, Factories and Industrial Undertakings (Electricity) Regulations, Factories and

Industrial Undertakings (Guarding and Operation of Machinery) Regulations, Factories and Industrial Undertakings (Safety Management) Regulation, Factories and Industrial Undertakings (Confined Spaces) Regulation, Factories and Industrial Undertakings (Gas Welding and Flame Cutting) Regulation, etc.

1.3 Factories and Industrial Undertakings (Loadshifting Machinery) Regulation (Chapter 59AG)

Interpretation

- “Fork-lift truck” means any self-propelled vehicle equipped with a mast along which travels a power-operated device for elevating and carrying loads.
- “Responsible person”, in relation to a loadshifting machine, means a person who is having the management or in charge of the machine but does not include a person who operates the machine, and the contractor who has control over the way any construction work which involves the use of the machine is carried out and, in the case of a loadshifting machine situated on or used in connection with work on a construction site, also means the contractor responsible for the construction site.
- “Loadshifting machine” means a power-operated mobile machine of a type specified in the Schedule and which is operated by a person riding on the machine.
- “Construction site” means a place where construction work is undertaken and also any area in the immediate vicinity of any such place which is used for storage of materials or plant or intended to be used for the purpose of the construction work.
- “Training course” means a training course that is –
 - recognized by the Commissioner for Labour;
 - conducted for the purpose of instructing a person in the operation of a type of loadshifting machine; and
 - designed to ensure that a person is adequately trained and competent to operate a type of loadshifting machine.
- “Certificate” means a certificate issued to a person by the organizer of a training course which evidences that, by virtue of his attendance at the training course designed for that purpose, he is trained and competent to operate a particular type of loadshifting machine.

Operation of loadshifting machine

- The responsible person of a loadshifting machine shall ensure that the machine is only operated by a person who –
 - has attained the age of 18 years; and
 - holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs.

Duty of responsible person to provide training course

- The responsible person of a loadshifting machine shall ensure the provision to each of his employees who is instructed (whether directly or indirectly) by him to operate a loadshifting machine of a training course conducted for the type of loadshifting machine to which that machine belongs.
- In case the employee fails to obtain a certificate after attending the training course, the responsible person of a loadshifting machine shall ensure the provision of an additional training course conducted for the same type of loadshifting machine as the first-mentioned training course for the employee.
- The responsible person of a loadshifting machine is not obliged to provide a training course to an employee if the employee holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs.

Duty of person to attend training course

- An employee is required to attend such training course as may be provided by the responsible person of the loadshifting machine unless he holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs

Production of certificate

- A person who operates a loadshifting machine shall, on being so required by an occupational safety officer, produce his valid certificate to the officer for inspection.
- A person who is unable to produce his valid certificate for inspection when required to do so, shall produce it for inspection by the officer within such reasonable time and at such reasonable place as required by the officer.

Exemption

- This Regulation does not apply to a person who operates a truck or lorry if he is the holder of a valid driving licence issued under the Road Traffic Ordinance (Cap. 374) of the class to which the truck or lorry belongs.

Schedule

- Part I: Loadshifting machines used in industrial undertakings -
 - a fork-lift truck.(Note: Front loader is under the type of fork-lift truck)
- Part II: Loadshifting machines used on construction sites -
 - a bulldozer;
 - a loader;
 - an excavator;
 - a truck;
 - a lorry;
 - a compactor;
 - a dumper;
 - a grader;
 - a locomotive;
 - a scraper.

1.4 Construction Sites (Safety) Regulations (Chapter 59I)

These regulations control the construction, maintenance, use and operation of hoists, scaffolds and working platforms. There are also provisions for the use of personal protective equipment for protection against falling of person, falling objects and drowning in a construction site. There are miscellaneous safety requirements such as prevention of inhalation of dust and fumes, protection of eyes and the provision of first aid facilities.

Part VA of the Construction Sites (Safety) Regulations provides a greater degree of safety to persons working on construction sites, in particular in relation to preventing falls from heights. Contractors have the general duty to make and keep every place of work on a construction site safe, and in particular, to take suitable and adequate steps to prevent persons from falling from a height of 2 metres or more, for example, the provision, use and maintenance of working platforms, guard-rails, barriers, toe-boards and fences, coverings for openings, gangways and runs, etc.

1.5 Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations (Chapter 59J)

The regulations define the meaning of lifting appliance, lifting gear and crane. It is mandatory for the owner to ensure that the lifting appliance and lifting gear

shall be examined and inspected by competent examiner and competent person periodically. A certificate shall be obtained from the competent examiner in the approved form in which he has made a statement to the effect that the lifting appliance is in safe working order.

1.6 The Factories and Industrial Undertakings (Cargo and Container Handling) Regulations (Chapter 59K)

These regulations provide for the requirements on safety of workers employed in industrial undertakings of loading, unloading or handling of cargo and goods at docks, quays or wharves as well as those employed in industrial undertakings of loading, unloading, handling, stacking, unstacking, storing or maintaining (including repairing) of freight containers. They also stipulate requirements on the provision of first aid facilities at docks, quays and wharves.

1.7 Code of Practice

The Code of Practice (hereinafter referred as the Code) is approved and issued by the Commissioner for Labour under Section 7A of the Factories and Industrial Undertakings Ordinance, Chapter 59 of the Laws of Hong Kong (hereinafter referred as the FIUO). It provides a practical guidance to proprietors of industrial undertakings and the employees for compliance with the requirements under the provisions of the Sections 6A and 6B of FIUO concerning the general duties of proprietor and employee. It is important to note that compliance with the Code does not of itself confer immunity from legal obligations.

The Code has a special legal status. Although failure to observe any guidance contained in the Code is not in itself an offence that failure may be taken by a court in criminal proceedings as a relevant factor in determining whether or not a person has breached any of the provisions of the regulations to which the guidance relates.

Codes of practice that are often used include:

- Code of Practice on Safe Use of Excavators
- Code of Practice on Mechanical Handling Safety in Container Yards
- Code of Practice for Safety and Health at Work (Land-based Construction Over Water – Prevention of Fall)
- Code of Safety for Safety and Health at Work in Confined Spaces

2. Handling of Accidents and Dangerous Occurrences and Reporting Procedures

[Reference teaching time for Section 2: 5 mins]

2.1 Handling of Work Injury

- For any work injury to a worker, the worker should inform the supervisor immediately and receive suitable treatment.
- Unless a worker has received adequate first aid training, the worker should not move the victim.
- If a worker is seriously injured or needs to be hospitalized, the supervisor should inform the safety department and call police immediately.
- If a worker falls from height, inform the first aider to take care of the worker but do not move the worker.

2.2 Reporting Workplace Accidents and Dangerous Occurrences

Reports of Accidents resulting in death or serious bodily injury

- The employer should notify it to an occupational safety officer of the Labour Department within 24 hours after the time when the accident occurred.

Reports of Accidents resulting in Incapacity

- According to the Employees' Compensation Ordinance, for an accident that results in an employee being incapacitated from working for a period exceeding 3 days, the employer should report it in writing to the Labour Department within 14 days after the date of the accident.

Reporting Dangerous Occurrences (For example, the overturning of, or a collision with any object by a bulldozer, dumper, excavator, grader, lorry or shovel loader, or the collapse of a lifting appliance, etc.)

- Every dangerous occurrence which occurs at a workplace, whether any personal injury has been caused or not, shall be reported to the Labour Department within 24 hours of its occurrence.

3. Commonly Used Personal Protective Equipment

[Reference teaching time for Section 3: 20 mins (excluding time for demonstration and hands-on practice)]

3.1 Personal Protective Equipment

- Personal protective equipment (PPE) is intended to be worn or otherwise used by a person at work for protecting the person against one or more hazards to his/her safety or health. Use of PPE is the last resort when controlling the sources of accident is impracticable. PPE should be handled with care and stored properly when not in use. The equipment should be kept clean and maintained in good condition.
- Employers have duties on guidance, training and supervision with respect to use of PPE. They should ensure that their employees know why and when PPE is used, its maintenance or replacement schedule and limitations.
- PPE should be provided by employers. Employees must wear PPE for the entire period of exposure to hazards.

3.1.1 Safety Helmets with Chin Straps [Explain by means of the real object of PPE or powerpoint]

- Wear a safety helmet on a construction site under all circumstances.
- A safety helmet is primarily intended to protect the top of the head from being injured by falling objects.
- A suitable safety helmet should bear appropriate marking indicating the conformity to certain international/ national standards such as European Standard.
- A safety helmet should be equipped with a chin strap.
- Keep the harness of a safety helmet clean and make sure that it fits well.
- Do not drill any holes on a safety helmet or use it for pounding.

3.1.2 Safety Shoes [Explain by means of the real object of PPE or powerpoint]

- Safety shoes should have steel toe caps, steel soles, slip-proof and water-proof characteristics.

3.1.3 Safety Gloves [Explain by means of the real object of PPE or powerpoint]

- Protect hands from getting injured by abrasion; cuts and punctures; contact with chemicals; electric shock; skin infection.
- Types of safety gloves include rubber gloves, steel, mesh gloves, leather gloves, wrist and arm protective devices.
- Workers should not wear cotton gloves for operating a machine with revolving parts so as to avoid causing injury to hands due to entangling of cotton gloves with the revolving parts of the machine.

3.1.4 Ear Protectors [Explain by means of the real object of PPE or powerpoint]

- Ear muffs are the most efficient noise isolation ear protectors.
- Wear ear protectors in areas with high noise levels.
- Properly wear ear protectors according to the manufacturer's instructions.
- Do not reuse disposable ear plugs.
- Clean ear protectors regularly.

3.1.5 Eye Protectors [Explain by means of the real object of PPE or powerpoint]

- When there is a risk of eye injury, such as in concrete breaking or using abrasive wheels, suitable eye protectors should be worn.
- Take proper care of the eye protectors provided to you.
- Replace damaged or defective eye protectors immediately.
- Ensure that eye protectors are comfortable to wear, and keep clean.

3.1.6 Respirator [Explain by means of the real object of PPE or powerpoint]

- Protect workers against dusts, fibres, hazardous gases and fumes and prevent workers from oxygen deficiency.
- Types of breathing apparatus include: disposable cartridge respirators; full-face/half-face respirators; air-supplied hoods; self-contained respirators.
- When using breathing apparatus, it must be properly fitted on the wearer's face.
- Breathing apparatus should be cleaned thoroughly after each use.

3.1.7 Safety Harness with Lifeline and Fall-arresting Device [Explain by means of the real object of PPE or powerpoint]

- The most suitable way to use a safety belt is to attach its snap-hook to a level higher than the user's waist.
- When falling from height, a full body harness (commonly known as parachute type) could better reduce the downward momentum and protect the user's waist from injury than a general safety belt.
 - Before using a safety belt, the following should be considered: any defects on the safety belt, any suitable anchorage, independent lifeline and fall arresting device, and whether the standard is met or not.
 - When using a safety belt for fall protection, the safety belt should be attached to a fixed anchorage point or a fall arrester of an independent lifeline.

3.1.8 Protective Clothing [Explain by means of the real object of PPE or powerpoint]

- Protective clothing is being used as working clothes or uniform, it also protects workers against injuries caused by hazards such as contact with chemicals or flame, striking, stabbing, radiation, drowning, extreme cold, hot or adverse weather conditions.
- The types of protective clothing: General purpose protective clothing; disposable overalls; specialized protective clothing such as cold resistant clothing; chemical or radiation protective clothing; high visibility clothing, puncture-resistant aprons and lifejacket used for land-based work carried out adjacent to water.



Occupational Safety and Health Branch
Labour Department

Annex 9

**Standardised Part of Course Content of Revalidation
Training Course for Operators of Loadshifting Machine**

**Standardised Part of Course Content of
Revalidation Training Course for
Operators of Loadshifting Machine**

Factories and Industrial Undertakings

(Loadshifting Machinery) Regulation



**Occupational Safety and Health Branch
Labour Department**

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Note: Suitable course content should be selected for interactive discussion with trainees.

1. Relevant Occupational Safety and Health Legislation Applicable to Loadshifting Machine

[Reference teaching time for Section 1: 15 mins]

1.1 Occupational Safety and Health Ordinance and the Subsidiary Regulations (Chapter 509)

- The purposes include ensuring the safety and health of employees when they are at work, prescribing the occupational safety and health measures, improving the safety and health standards applicable to workplaces, and improving the safety and health aspects of working environments of employees.
- This ordinance covers almost all workplaces - places where employees work, including offices, shopping arcades, supermarkets, hospitals and construction sites, etc.
- Subsidiary regulations include Occupational Safety and Health Regulation and Occupational Safety and Health (Display Screen Equipment) Regulation.

1.2 Factories and Industrial Undertakings Ordinance and the Subsidiary Regulations (Chapter 59)

- Provide for the safety and health protection to workers in the industrial sector.
- Coverage of the Regulations includes factories, construction sites and catering establishments, etc.
- General Duties of Proprietors
Every proprietor of an industrial undertaking must, so far as is reasonably practicable, ensure the safety and health at work of all persons employed by him. The matters to which that duty extends include providing and maintaining plant and work systems that do not endanger safety or health, and providing all necessary information, instruction, training and supervision for ensuring safety and health, etc.
- General duties of persons employed include that every person employed at an industrial undertaking must take reasonable care for the safety and health of himself and others, etc.
- Subsidiary regulations under Factories and Industrial Undertakings Ordinance include Factories and Industrial Undertakings Regulations, Construction Sites (Safety) Regulations, Factories and Industrial

Undertakings (Lifting Appliances and Lifting Gear) Regulations, and Factories and Industrial Undertakings (Loadshifting Machinery) Regulation.

1.3 Factories and Industrial Undertakings (Loadshifting Machinery) Regulation (Chapter 59AG)

Interpretation

- “Fork-lift truck” means any self-propelled vehicle equipped with a mast along which travels a power-operated device for elevating and carrying loads.
- “Responsible person”, in relation to a loadshifting machine, means a person who is having the management or in charge of the machine but does not include a person who operates the machine, and the contractor who has control over the way any construction work which involves the use of the machine is carried out and, in the case of a loadshifting machine situated on or used in connection with work on a construction site, also means the contractor responsible for the construction site.
- “Loadshifting machine” means a power-operated mobile machine of a type specified in the Schedule and which is operated by a person riding on the machine.
- “Construction site” means a place where construction work is undertaken and also any area in the immediate vicinity of any such place which is used for storage of materials or plant or intended to be used for the purpose of the construction work.
- “Training course” means a training course that is –
 - recognized by the Commissioner for Labour;
 - conducted for the purpose of instructing a person in the operation of a type of loadshifting machine; and
 - designed to ensure that a person is adequately trained and competent to operate a type of loadshifting machine.
- “Certificate” means a certificate issued to a person by the organizer of a training course which evidences that, by virtue of his attendance at the training course designed for that purpose, he is trained and competent to operate a particular type of loadshifting machine.

Operation of loadshifting machine

- The responsible person of a loadshifting machine shall ensure that the machine is only operated by a person who –
 - has attained the age of 18 years; and

- holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs.

Duty of responsible person to provide training course

- The responsible person of a loadshifting machine shall ensure the provision to each of his employees who is instructed (whether directly or indirectly) by him to operate a loadshifting machine of a training course conducted for the type of loadshifting machine to which that machine belongs.
- In case the employee fails to obtain a certificate after attending the training course, the responsible person of a loadshifting machine shall ensure the provision of an additional training course conducted for the same type of loadshifting machine as the first-mentioned training course for the employee.
- The responsible person of a loadshifting machine is not obliged to provide a training course to an employee if the employee holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs.

Duty of person to attend training course

- An employee is required to attend such training course as may be provided by the responsible person of the loadshifting machine unless he holds a valid certificate applicable to the type of loadshifting machine to which that machine belongs

Production of certificate

- A person who operates a loadshifting machine shall, on being so required by an occupational safety officer, produce his valid certificate to the officer for inspection.
- A person who is unable to produce his valid certificate for inspection when required to do so, shall produce it for inspection by the officer within such reasonable time and at such reasonable place as required by the officer.

Exemption

- This Regulation does not apply to a person who operates a truck or lorry if he is the holder of a valid driving licence issued under the Road Traffic Ordinance (Cap. 374) of the class to which the truck or lorry belongs.

Schedule

- Part I: Loadshifting machines used in industrial undertakings -

- a fork-lift truck.

(Note: Front loader is under the type of fork-lift truck)

- Part II: Loadshifting machines used on construction sites -
 - a bulldozer;
 - a loader;
 - an excavator;
 - a truck;
 - a lorry;
 - a compactor;
 - a dumper;
 - a grader;
 - a locomotive;
 - a scraper.

1.4 Construction Sites (Safety) Regulations (Chapter 59I)

These regulations control the construction, maintenance, use and operation of hoists, scaffolds and working platforms. There are also provisions for the use of personal protective equipment for protection against falling of person, falling objects and drowning in a construction site. There are miscellaneous safety requirements such as prevention of inhalation of dust and fumes, protection of eyes and the provision of first aid facilities.

Part VA of the Construction Sites (Safety) Regulations provides a greater degree of safety to persons working on construction sites, in particular in relation to preventing falls from heights. Contractors have the general duty to make and keep every place of work on a construction site safe, and in particular, to take suitable and adequate steps to prevent persons from falling from a height of 2 metres or more, for example, the provision, use and maintenance of working platforms, guard-rails, barriers, toe-boards and fences, coverings for openings, gangways and runs, etc.

1.5 Factories and Industrial Undertakings (Lifting Appliances and Lifting Gear) Regulations (Chapter 59J)

The regulations define the meaning of lifting appliance, lifting gear and crane. It is mandatory for the owner to ensure that the lifting appliance and lifting gear shall be examined and inspected by competent examiner and competent person periodically. A certificate shall be obtained from the competent examiner in the

approved form in which he has made a statement to the effect that the lifting appliance is in safe working order.

1.6 The Factories and Industrial Undertakings (Cargo and Container Handling) Regulations (Chapter 59K)

These regulations provide for the requirements on safety of workers employed in industrial undertakings of loading, unloading or handling of cargo and goods at docks, quays or wharves as well as those employed in industrial undertakings of loading, unloading, handling, stacking, unstacking, storing or maintaining (including repairing) of freight containers. They also stipulate requirements on the provision of first aid facilities at docks, quays and wharves.

1.7 Code of Practice

The Code has a special legal status. Although failure to observe any guidance contained in the Code is not in itself an offence that failure may be taken by a court in criminal proceedings as a relevant factor in determining whether or not a person has breached any of the provisions of the regulations to which the guidance relates.

Codes of practice that are often used include:

- Code of Practice on Safe Use of Excavators
- Code of Practice on Mechanical Handling Safety in Container Yards
- Code of Practice for Safety and Health at Work (Land-based Construction Over Water – Prevention of Fall)
- Code of Safety for Safety and Health at Work in Confined Spaces

2. Handling of Accidents and Dangerous Occurrences and Reporting Procedures

[Reference teaching time for Section 2: 5 mins]

2.1 Handling of Work Injury

- For any work injury to a worker, the worker should inform the supervisor immediately and receive suitable treatment.
- Unless a worker has received adequate first aid training, the worker should not move the victim.
- If a worker is seriously injured or needs to be hospitalized, the supervisor should inform the safety department and call police immediately.
- If a worker falls from height, inform the first aider to take care of the worker but do not move the worker.

2.2 Reporting Workplace Accidents and Dangerous Occurrences

Reports of Accidents resulting in death or serious bodily injury

- The employer should notify it to an occupational safety officer of the Labour Department within 24 hours after the time when the accident occurred.

Reports of Accidents resulting in Incapacity

- According to the Employees' Compensation Ordinance, for an accident that results in an employee being incapacitated from working for a period exceeding 3 days, the employer should report it in writing to the Labour Department within 14 days after the date of the accident.

Reporting Dangerous Occurrences (For example, the overturning of, or a collision with any object by a bulldozer, dumper, excavator, grader, lorry or shovel loader, or the collapse of a lifting appliance, etc.)

- Every dangerous occurrence which occurs at a workplace, whether any personal injury has been caused or not, shall be reported to the Labour Department within 24 hours of its occurrence.

3. Commonly Used Personal Protective Equipment

[Reference teaching time for Section 3: 15 mins (excluding time for demonstration and hands-on practice)]

3.1 Personal Protective Equipment

- Personal protective equipment (PPE) is intended to be worn or otherwise used by a person at work and protects the person against one or more hazards to his/her safety or health. Use of PPE is the last resort when controlling the sources of accident is impracticable.
- PPE should be provided by employers. Employees must wear PPE for the entire period of exposure to hazards.

3.1.1 Safety Helmets with Chin Straps [Explain by means of the real object of PPE or powerpoint]

- Wear a safety helmet on a construction site under all circumstances.
- A safety helmet is primarily intended to protect the top of the head from being injured by falling objects.
- A suitable safety helmet should bear appropriate marking indicating the conformity to certain international/ national standards such as European Standard.
- A safety helmet should be equipped with a chin strap.

3.1.2 Safety Shoes [Explain by means of the real object of PPE or powerpoint]

- Safety shoes should have steel toe caps, steel soles, slip-proof and water-proof characteristics.

3.1.3 Safety Gloves [Explain by means of the real object of PPE or powerpoint]

- Protect hands from getting injured by abrasion; cuts and punctures; contact with chemicals; electric shock; skin infection.
- Types of safety gloves include rubber gloves, steel, mesh gloves, leather gloves, wrist and arm protective devices.
- Workers should not wear cotton gloves for operating a machine with revolving parts so as to avoid causing injury to hands due to entangling of cotton gloves with the revolving parts of the machine.

3.1.4 Ear Protectors [Explain by means of the real object of PPE or powerpoint]

- Ear muffs are the most efficient noise isolation ear protectors.
- Wear ear protectors in areas with high noise levels.
- Properly wear ear protectors according to the manufacturer's instructions.

3.1.5 Eye Protectors [Explain by means of the real object of PPE or powerpoint]

- When there is a risk of eye injury, such as in concrete breaking or using abrasive wheels, suitable eye protectors should be worn.
- Take proper care of the eye protectors provided to you.
- Replace damaged or defective eye protectors immediately.
- Ensure that eye protectors are comfortable to wear, and keep clean.

3.1.6 Respirator [Explain by means of the real object of PPE or powerpoint]

- Protect workers against dusts, fibres, hazardous gases and fumes and prevent workers from oxygen deficiency.
- Types of breathing apparatus include: disposable cartridge respirators; full-face/half-face respirators; air-supplied hoods; self-contained respirators.
- When using breathing apparatus, it must be properly fitted on the wearer's face.
- Breathing apparatus should be cleaned thoroughly after each use.

3.1.7 Safety Harness with Lifeline and Fall-arresting Device [Explain by means of the real object of PPE or powerpoint]

- The most suitable way to use a safety belt is to attach its snap-hook to a level higher than the user's waist.
- When falling from height, a full body harness (commonly known as parachute type) could better reduce the downward momentum and protect the user's waist from injury than a general safety belt.
 - Before using a safety belt, the following should be considered: any defects on the safety belt, any suitable anchorage, independent lifeline and fall arresting device, and whether the standard is met or not.
 - When using a safety belt for fall protection, the safety belt should be attached to a fixed anchorage point or a fall arrester of an independent lifeline.

3.1.8 Protective Clothing [Explain by means of the real object of PPE or powerpoint]

- Protective clothing is being used as working clothes or uniform, it also protects workers against injuries caused by hazards such as contact with chemicals or flame, striking, stabbing, radiation, drowning, extreme cold, hot or adverse weather conditions.
- The types of protective clothing: General purpose protective clothing; disposable overalls; specialized protective clothing such as cold resistant clothing; chemical or radiation protective clothing; high visibility clothing, puncture-resistant aprons and lifejacket used for land-based work carried out adjacent to water.



**Occupational Safety and Health Branch
Labour Department**

Annex 10

**Answer Sheet for Standardised Part of Course Content
of Training for Operators of Loadshifting Machine**

Answer Sheet
for Standardised Part of Course Content of Training for Operators of Loadshifting Machine

Name of Course Provider : _____

Class Ref. (TRC1): _____

Examination Paper Code : _____

Date of Examination : _____

Examination Start Time : _____

Name of Trainee : _____

Mark : _____

Instructions to Trainees

1. The examination paper consists of 5 multiple choice questions. Each correct answer carries 1 mark. Please answer all questions.
2. The passing mark of the examination is 3. The examination must be finished in 10 minutes.
3. Please read the questions carefully and put a tick in the answer box you choose for the question.
4. If you tick more than one answer box for one question, no marks will be awarded.
5. Please initial next to your final answer whenever amendment is made.
6. If you have any questions, please raise your hand and ask the examiner or invigilator.

Question	Answer			
	A	B	C	D
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please tick only one box to denote if the trainee has used the question paper reading service and also if it is read in English.

Not required

Read in English

Read in language other than English

Signature of Trainee : _____

Date: _____

Name and Signature of Invigilator : _____

Date: _____