TECHNICAL NOTES PART II

Competency Unit	:	Supervise Work in Confined Space Operation
TSC Title	:	Supervise Work in Confined Space Operation
TSC Code	:	PIW-PRO-3329-1.1-E
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Table of Contents

Purpose of Guide

This Guide is designed for WDA's Training Providers (TPs) and Adult Educators who are responsible for the design and delivery of programs within the **Supervise Work in Confined Space Operation** of the Process Industry. This Guide aims to provide essential curriculum, training and assessment design advisory information, to guide developers, trainers and assessment in the interpretation and translation of competency standards into training and assessment programme. The Guide also contains training and assessment requirements stipulated by industry, and WSQ accreditation information for compliance. It is divided into 2 parts:

Part I - Details specific recommendations and advice for **Supervise Work in Confined Space Operation** programme developers.

Part II - Provides a broad spectrum of information about WSQ and related components relevant to the **Supervise Work in Confined Space Operation.**

PART I

WSQ
Supervise Work in Confined Space Operation

CHAPTER 1: PROCESS INDUSTRY AND WSQ SUPERVISE WORK IN CONFINED SPACE OPERATION

This chapter describes the overview of the WSQ Framework and its qualifications, covering these components:

1.1   Overview of the Process Industry

The WSQ **Process Industry Framework** is a generic framework that targeted at training and skill-up workers for the process industry as well related industries. The framework comprises common cross-cutting occupational skill sets for operations, supervisory and managerial level workers across all sectors of the industry. Qualifications would be designed to take into consideration needs of the industry as well as progression articulation for workers.

Supervise Work in Confined Space Operation is one of the skills that come under the **WSQ Process Industry Framework.** The module belongs to the system category under all process sectors for competency level 3.

1.2   Overview of WSQ Supervise Work in Confined Space Operation

This section provides a brief synopsis about the **WSQ Supervise Work in Confined Space Operation**, how the **Supervise Work in Confined Space Operation** sits within the WSQ Process Framework, the competency units under the Qualification, the WSQ level and the total credit values.

1.3   Key Features of the Supervise Work in Confined Space Operation

This section describes the key features or characteristics of the **Supervise Work in Confined Space Operation.** This may include features such as practicum component, usage of graded assessment, action-learning project requirement, learning environment etc.

1.4   Target Audience

The job role(s) / occupations that this unit would be relevant to may include the following parties related to / in the process industry:

- Supervisor
- Rescue personnel
- Manager
- Company Safety Personnel
- Engineers
- Technician / Operators

1.5   Recommended Learning Hours (RLH) (Mandatory Section)

The recommended Learning Hour for **Supervise Work in Confined Space Operation** programme is 24 hours of competency-based Learning and assessment. The recommended Learning duration for the competency unit is illustrated in Table C.

Table C: Competency Unit's Recommended Learning Hours

Competency Units	Recommended Learning Hours	
	Training Delivery Hours:	Assessment Hours:
Supervise Work in Confined Space Operation	• 18	• 3

WDA acknowledges that different TPs may adopt different approaches and training methodologies in delivering these programmes and as such the programme duration may vary. Despite the variations in the programme duration, as the Curriculum Developer of these programmes, it is important that you ensure the developed programme meets the general principles of competency-based training delivery and assessment and fulfils all the Performance Criteria / Expectations and Underpinning Knowledge as stipulated in all the competency units.

1.6   Recommended Class Size and Facilitator-Learner Ratio

Room with the capacity for up to 20 candidates for conduct of programme

Room or place to be used must be away from noise or interruptions

The recommend maximum class size and trainer-learner ratio are illustrated as follow:

Competency Unit Title	Class Size (Max)	Trainer to Learner Ratio	
		Lecture	Learning activities
Supervise Work in Confined Space Operation	20	1: 20	≤5

1.7   Recommended Assessor to Candidate Ratio

Competency Unit Title	Assessor to Candidate Ratio	
	Written Question	Practical Performance / Case Study
Supervise Work in Confined Space Operation	1: 20	1: 5

CHAPTER 2: TYPES OF PROGRAMME

TPs has the prerogative to offer programme developed based on only one competency unit (CU) or may wish to develop as an integrated programme as there are correlation with other competency units.

2.1   Programmes with One Competency Unit (Modular)

There is one (1)) competency unit offered in the WSQ Process Industry for worker level under the category. The table below shows a summary of the content coverage for the competency unit.

Competency Unit	Descriptor	Competency Element
Supervise Work in Confined Space Operation	On completion of this unit, learners will be equipped with the necessary skills and knowledge to perform the duties of a supervisor working in a confined space.	CE1. Identify duties and responsibilities of a Confined Space Supervisor under the WSH legislations and Codes of Practice CE2. Identify, prevent and control confined space hazards CE3. Carry out and comply with the requirements of the Confined Space Entry Permit System using a systematic approach CE4. Apply Gas Detection Instruments and other control measures when working in confined space CE5. Implement the safe use of personal protective equipment and respiratory protective equipment when in a confined space CE6. Assist in implementing an Emergency Response Plan

2.2   Programmes with One Competency Unit (Modular)

This section offers explanations to TPs who are keen to offer programmes developed based on only one competency unit (CU). There is little or minimal correlation with other competency units. An illustration (Figure 1) is given below.

Figure 1: Programme with One Competency Unit
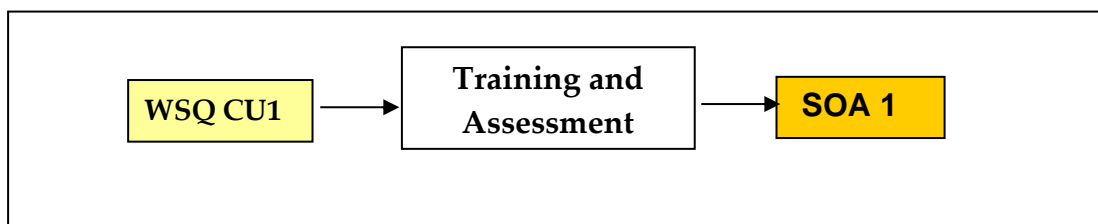
Developers should be discouraged from lifting of competency elements, performance criteria or underpinning knowledge straight from the competency standard and used them as learning outcomes. Developers should first examine what the learner should be able to perform at the workplace upon end of training (learning outcomes), and unpack the competencies to the learning outcomes accordingly.

2.3   Integrated Programme with Multiple Competency Units

In order to meet the needs of the learners, TPs may want to consider combining two or more competency units into a single integrated curriculum/training programme. The competency units must be selected carefully in order to develop a learning programme that is meaningful and relevant to the learners. Developers should develop integrated programme when there is significant overlap of learning outcomes where integrated programme would normally achieve time-savings for the learners. Specific instructions on how to integrate and when to integrate should be explained in this section.

The sequencing of the learning content need not follow the sequence of competency requirements in the competency standard documents. They may be rearranged within the same or across different competency units as you deem most appropriate for your learners. Nevertheless, the sequencing of learning content should be logical and provide sufficient scaffolding for training to be effective. Learners should not be made to go through the same competency unit again as they progress from one training programme to another once they have acquired the SOA. An illustration (Figure 1) is given below.

Figure 2: Integrated Programme with Two Competency Units
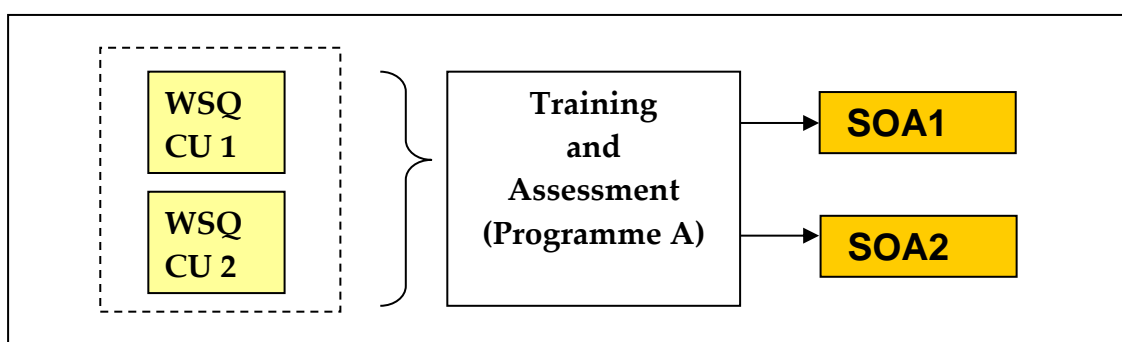
Note: *If there are more elaborate or specific guidelines on packaging and integration of programmes, FLD should either include the details here or produce a separate advisory. To indicate so if there is a separate guide.*

9

CHAPTER 3: KEY DELIVERY ADVICE

This chapter describes the following components:

3.1   Content Coverage

In developing the programme for any **Supervise Work in Confined Space Operation** competency unit, TPs should always make cross references to the Performance Statements (PS) or Competency Elements (CE) / Performance Criteria, Underpinning Knowledge (UK), Range of Application and Evidence Sources sections as stipulated in the **Supervise Work in Confined Space Operation** National Competency Standard.

The components of the Competency Standard and the interpretations are briefly explained here.

For example,

The Range and Application and Evidence Sources reference to the Performance Criteria and/or Underpinning Knowledge is usually accompanied by the instructions "may include" or "must include":

"May include"
-    Indicates that training providers are required to cover some **(50 percent)** of the suggested Range and Application items listed when developing the **Supervise Work in Confined Space Operation**

-    The training provider may choose to add more Range and Application items related to the corresponding Performance Statements/Criteria and/or Underpinning Knowledge as part of their **Supervise Work in Confined Space Operation** programme development.

"Must include"
-    Indicates that training providers are required to cover all of Range and Application items listed when developing courseware.

-    The training provider may choose to add more Range and Application items related to the corresponding Performance Statements/Criteria and/or Underpinning Knowledge as part of their **Supervise Work in Confined Space Operation**

(b)   Underpinning Knowledge

It is to be noted that "Assumed Attitudes Skills and Knowledge" stipulated in the respective competency unit will not be covered or taught during the delivery of the unit whereas "Underpinning Knowledge" will be.

3.1.1 WSQ Supervise Work in Confined Space Operation Contents Coverage:

The content coverage should take into consideration the following:

Competency Elements	Performance Criteria/Underpinning Knowledge Range and Application and Evidence Sources to be covered

CE1: Identify duties and responsibilities of a Confined Space Supervisor under the WSH legislations and Codes of Practice	• Performance Criteria
	
	1.1 Identify and communicate the legal requirements on confined space work
	
	1.2 Identify and explain the roles and responsibilities of all personnel working in a confined space
	
	1.3 Apply appropriate means to communicate to workers on the legal requirements when working in a confined space
	
	• Underpinning Knowledge
	
	A competent individual should be equipped with the following knowledge:
	▪ Legal requirements on confined space as stipulated by the WSH Act, WSH (Confined Space) Regulations; WSH (Construction) Regulations, WSH (Shipbuilding & Ship-repairing) Regulations; WSH (General Provision) and Code of Practice for Confined Spaces (SS 568:2011)
	▪ Duties and responsibilities of a Confined space Supervisor when appointed by the Principal or employer at the workplace
	▪ Duties and responsibilities of all other personnel involved in confined space work
	
	Process evidence:
	
	1. Identifying and communicating the legal requirements on confined space work
	
	2. Identifying the roles and responsibilities of all personnel involved in confined space work
	
	Knowledge evidence (Verbal/Written Questioning):
	
	1. State the roles and responsibilities of all personnel involved in confined space work, including:
	
	   - Supervisor
	
	   - Entrant
	
	   - Attendant
	
	   - confined space safety assessor
	
	   - Rescue personnel
	
	   - Authorised managers
	
	   - Responsible person

^CE2: Identify, prevent and control confined space hazards	• Performance Criteria 2.1 Identify types of confined space 2.2 Identify atmospheric hazards and their consequences 2.3 Identify physical and biological hazards and their consequences

^The Risk Assessment /Management process should consider the management of infectious disease outbreak, employees' health (including mental well-being) and terrorist threats. Training Provider should take reference from the 3rd revision of the Code of Practice on Risk Management.	2.4 Conduct a risk assessment • Underpinning Knowledge A competent individual should be equipped with the following knowledge: ▪ Types of confined space ▪ Types of atmospheric hazards and their impact ▪ Types of physical and biological hazards and their impact ▪ Risks when working in a confined space, severity of consequences and likelihood ▪ Symptoms of persons exposed to typical atmospheric hazards ▪ Control measures to eliminate confined spaces hazards (atmospheric, physical and biological hazards) ▪ Optimum and acceptable atmospheric conditions to propose for safe entry and continual work in a confined space (Method of monitoring – range of application) Process evidence: 1. Identifying and recognizing a few typical types of confined space 2. Identifying Atmospheric Hazard and Physical and Biological Hazard as well as their consequences 3. Recognizing symptoms of persons exposed to typical atmospheric hazards 4. Implementing control measures to eliminate various confined space hazards 5. Implementing safety measures for confined space entry & work 6. Conducting risk assessment and Interpreting the hazard identification, severity of consequence, likelihood and apply 5 X 5 risk matrix 7. Monitoring all activities within and outside the confined space during entry and work to ensure confined space work continue safely Product evidence: 1. List of typical types of confined space identified 2. Record of risk assessment carried out 3. Completed checklist on activities to be monitored Knowledge evidence (Verbal/Written Questioning): 1. State the risk assessment process 2. List the atmospheric, physical and biological hazards 3. Outline the main control measures to eliminate atmospheric confined space hazards 4. Give three control measures to prevent physical hazards 5. State the common control measures to eliminate biological hazards 6. State the symptoms of persons exposed to typical atmospheric hazards 7. State optimum and acceptable atmospheric conditions for safe entry and continual work in a confined space 8. State safety measures for confined space entry & work
CE3. Carry out and comply with the requirements of a Confined space Entry	• Performance Criteria 3.1 Identify the elements of an effective confined space entry and how the elements of the programme relate to the various WSH regulations 3.2 Raise and comply with a Permit-to-Work system

Permit System using a systematic approach	3.3 Check to ensure that all workers are briefed on the Confined Space Entry Permit
	3.4 Terminate the entry permit upon completion of work
	• Underpinning Knowledge
	A competent individual should be equipped with the following knowledge:
	▪ An effective confined space entry programme and its elements (including hierarchy of control, confined space entry permit system)
	▪ Elements of a confined space entry programme in the WSH (Confined Space) Regulations, WSH (Shipbuilding and Ship Repair) Regulations and WSH (Construction) Regulations
	▪ Confined space Entry Permit System
	▪ Procedures to raise a permit-to-work request
	▪ Safety measures for confined space entry & work
	Process evidence:
	1. Preparing and applying for a permit-to-work
	2. Terminating the entry permit upon completion of work
	3. Identifying the hierarchy of control
	4. Interpreting and implement the contents on the confined space entry permit
	Product evidence:
	1. Display of the legal requirements on confined space work, including safety signs established
	2. Completed Application Form for a permit-to-work
	3. Completed Application Form to terminate entry permit
	4. Workers can articulate the key elements of the Confined space Entry Permit
	5. Completed log book of entrance and exit of personnel
	Knowledge evidence (Verbal/Written Questioning):
	1. List the elements of an effective confined space entry and explain how the elements of the programme relate to the various WSH regulations
	2. State the various WSH regulations
	3. State the hierarchy of control
	4. List the contents on the confined space entry permit
	5. List the safe work procedures for entry into and working inside confined space
CE4. Apply Gas Detection Instruments and other control measures when working in confined space	• Performance Criteria
	4.1 Apply gas detection instruments gas detection instruments in normal atmospheric condition and abnormal condition
	4.2 Read and interpret results shown on gas testing and gas detection instruments
	4.3 Identify the Limitations of Gas Detection Instruments
	• Underpinning Knowledge
	A competent individual should be equipped with the following knowledge:
	▪ Safe work procedures for working in a confined space
	▪ Types of common gas meter detectors, their uses and limitations

	Process evidence: 1. Carrying out Gas Testing Procedures 2. Interpreting the responses & readings of gas detection instruments under various conditions Product evidence: 1. Record of gas detectors readings 2. List of different types of mechanical ventilation used in confined space 3. Completed checklist for Gas Testing Procedures Knowledge evidence (Verbal/Written Questioning): 1. List the major types of gas detectors used in confined space operations 2. State the limitations of gas detectors 3. State the steps in a procedure for gas testing 4. Name the types of the mechanical ventilation
CE5. Implement the safe use of personal protective equipment and respiratory protective equipment when working in a confined space	• Performance Criteria 5.1 Conduct inspection to check that the workers identify, select and use the proper PPE for work/entry into confined space 5.2 Verify that correct procedures are used by the worker to identify, select, inspect and use respiratory protective equipment 5.3 Conduct inspection to fit check of air purifying respirators 5.4 Monitor PPE are properly prepared, stored and maintained. 5.5 Monitor respiratory protection equipment for use in confined space works are properly prepared, stored and maintained. • Underpinning Knowledge A competent individual should be equipped with the following knowledge: ▪ Types of personal protective equipment (PPE) and their functions ▪ Types of respiratory protection equipment and their uses ▪ Maintenance and inspection method and procedures for PPE ▪ Maintenance and inspection method and procedures for respiratory protection equipment Process evidence: 1. Selecting and wearing of proper PPE 2. Maintaining and checking of PPE 3. Storing of PPE Product evidence: 1. Completed checklist on PPE to be used 2. Record of fit check of air purifying respirators updated 3. Maintenance and check Records updated 4. Inventory records of PPE available updated Knowledge evidence (Verbal/Written Questioning): 1. List appropriate types of PPE for confined space work 2. List appropriate PPE for specific work / condition 3. State the components of fit check of air purifying respirators report 4. List the various types of air purifying respirators used

	5. List the storage conditions for PPE 6. State how PPE should be maintained and the acceptable conditions suitable for use
CE 6. Assist in Implementing an Emergency Response Plan	• Performance Criteria 6.1 Communicate the Emergency Response Plan to workers in accordance with the organizational procedure 6.2 Activate rescue personnel in accordance with the Emergency Response Plan 6.3 Conduct inspection to ensure that workers wear full-body harness correctly when required 6.4 Conduct inspection on the correct use of self contained breathing apparatus (SCBA) 6.5 Operate communication devices 6.6 Initiate evacuation and self rescue • Underpinning Knowledge A competent individual should be equipped with the following knowledge: ▪ Elements of an Emergency Response Plan (ER) ▪ Elements of a rescue operation plan ▪ Identify hazardous conditions which require evacuation ▪ Communicate the evacuation conditions ▪ Responsibilities of attendant in an emergency ▪ Rescue arrangements ▪ Self-rescue procedures ▪ Alarms and communications ▪ Rescue and respiratory protection equipment for use for rescue in confined space with hazardous conditions ▪ Rescue equipment for confined space operations ▪ Entry and non-entry rescue methods ▪ Retrieval techniques for injured personnel Process evidence: 1. Identifying the roles of relevant personnel during the emergency evacuation 2. Identifying the emergency evacuation process in confined space 3. Complying with the instructional procedure for emergency evacuation 4. Communicating the Emergency Response Plan (ERP) to workers in accordance to the organization procedure 5. Conducting inspection to ensure that workers wear full-body harness correctly when required 6. Conducting inspection to ensure that workers use the self contained breathing apparatus (SCBA) correctly 7. Operating communication devices Knowledge evidence (Verbal/Written Questioning): 1. State hazardous condition which requires evacuation 2. List the emergency equipment use in confined space 3. State the responsibilities of attendant and tracking system for entrants in confined space

	4. State self-rescue procedures
	5. State the entry and non-entry rescue methods
	6. State the retrieval techniques for injured personnel

3.2 Sequence of Coverage

A clear sequencing strategy should be suggested. Sequencing is the efficient ordering of content in such a way as to help the learner achieve the objectives.

The learning sequence need not be the same as the sequence of tasks performed on the job. It is also not necessary to use the same sequencing strategy throughout the training programme although it may be more expedient. Effective sequencing can result in greater motivation since every task mastered will increase the learner's confidence and pride. Some effective sequencing strategies are proceeding from:
- the known to the unknown;
- the simple to the complex;
- the concrete to the abstract;
- the particular to the general;
- observation to reasoning; and
- the whole, to the parts, and back again to the whole

3.3 Practicum

Currently, there is no practicum requirement for the programme.

3.4 Project Work

Currently, there is no practicum requirement for the programme.

3.5 Learning Strategies and Methods

Suggested Delivery Strategies and Methods

The respective competency unit of the WSQ programme may be delivered off-the-job, it can be face to face in the classroom in a training organisation venue. Classroom delivery should emphasize interactive and learner-centred learning and use a flexible range of learning and delivery methods.

If preparations by learners are required prior to commencement of the course, they should be provided with learning materials such as handouts (self-directed learning) upon registration of the course. They should also be notified by training organisations on what they need to prepare before coming for the course.

Every effort must be made to emphasise the direct relationship between the acquisition and application of the skills, knowledge and attributes to their workplace.

Varied delivery strategies should be utilised to optimise learning. Listed below are some possible options:

- Lecture presentation / Self-directed learning / E-learning / Session Review
- Group Discussions / Presentation

The above suggested delivery strategies and methods should be adjusted according to the profile of the target audience. Programme developers are also encouraged to be creative in designing an interactive learning experience that allows the learners to apply the learning into context.

In addition, you may want to adopt the following approach to curriculum development for the learning:

Suggestions for delivery of Competency Unit are given below:

Learning Activity	Applications
Lecture on underpinning knowledge and principles	• Method to provide details on a specific subject • Little or no interaction with learners • Recommended to incorporate graphics such as videos, diagrams and pictures • Recommended to complement lecture with session review to maximise learning for learners
Case study	• Opportunity for learners to understand the context through scenario-based illustrations
Practice	• Opportunity for learners to try performing a skill with support and feedback • Best conducted in small groups or one-on-one • Generally used for skill development • Effective form of learner engagement
Discussion	• Two-way interaction to examine issues or problems • Best for a small group of learners • Generally used for analysing problems, attitudes or difficult situations • Can be time consuming

The suggested learning strategies to optimize learning for the competency unit in the WSQ **Process Industry training programmes** are illustrated as follow:

CU: Supervise Work in Confined Space Operation

Suggested Learning Strategy	Topics & Learning Activity Involved
Lecture / Session Review	CE 1 Identify duties and responsibilities of a Confined space Supervisor under the WSH legislations and Codes of Practice CE 2 Identify, prevent and control confined space hazards

Suggested Learning Strategy	Topics & Learning Activity Involved
	CE 3 Carry out and comply with the requirements of the Confined Space Entry Permit System using a systematic approach
	CE 4 Apply Gas Detection Instruments and other control measures when working in confined space
	CE 5 Implement the safe use of personal protective equipment and respiratory protective equipment when in a confined space
	CE 6 Assist in implementing an Emergency Response Plan
Practice Performance	^ PC2.4 Conduct a risk assessment
	PC2.5 Implement control measures to eliminate various confined spaces hazards
	PC5.1 Conduct inspection to check that the workers identify, select and use the proper PPE for work/entry into confined space
	PC5.2 Verify that correct procedures are used by the worker to identify, select, inspect and use respiratory protective equipment
	^The Risk Assessment/Management process should consider the management of infectious disease outbreak, employees' health (including mental well-being) and terrorist threats. Training Provider should take reference from the 3rd revision of the Code of Practice on Risk Management.
Case Study	• CE 2 PPT: Wastewater sump • CE 3 PPT Cleaning chemical storage tank

Suggested Learning Strategy	Topics & Learning Activity Involved
Optional	TP may provide equipment to enhance the learning through the following topics CE4: Apply Gas Detection Instruments and other control measures when working in confined space Example of equipment(s) • Gas detector instruments CE 5: Implement the safe use of personal protective equipment and respiratory protective equipment when working in a confined space Example of equipment(s) • Personal Protective Equipment (PPE) • Respiratory Protective Equipment (RPE) CE6: Assist in Implementing an Emergency Response Plan Example of equipment(s) • Rescue equipment, i.e. stretcher • Open communication devices, i.e. Walkie Talkie

An example of instructional strategy selection for cognitive, affective and psychomotor domains is given in **Annex A**.

A non-exhaustive list of recommended delivery methods is provided below.

- Role play
- Group Discussion
- MCQ Exercise
- Written Exercise
- Case Study
- Workplace Practice
- Presentation
- Action Learning
- Coaching / Mentoring

Where relevant and appropriate, the learning activities for the unit should be designed to shape or cultivate the expected attitudes of the candidates and to prepare them for their role in the sector.

Industry Requirements

Currently there is no particular assessment method mandated by the industry.

MOM/WSH Council officers shall conduct audits with or without notice on WSQ WSH TPs.

3.6 Trainer's Guide and Learners' Workbook/handouts

The TP is required to prepare a trainer's guide for the course. The guide provides the facilitator with information on the course including
- Course aim
- Learning objectives
- Target audience
- Assumed skills and knowledge
- Course duration
- Class size and trainer/trainee ratio
- Lesson plan
- Course contents and instructional materials
- Training methodologies
- Training resource requirements
- Course administration instruction

To facilitate the learning process, it is recommended that the TP provided each trainee with a participant's workbook or handouts. This set of notes should contain the course aim, learning objectives and the key learning points (WSHA 2006, subsidiary legislations, industrial code of practice, safety guidelines etc) as well as guides for learning activities including safe use of cranes.

The TP to ensure that materials used for the training does not infringe on patent, design, copyright and intellectual property rights.

The TP shall maintain a version control of updates made to the course materials for verification by the relevant authorities.

3.7 Training Provider Requirements

Training Providers are required to fulfill the following requirements:

- ISO 29993 certification;

- bizSAFE Level 3 certification;

- Blended learning
  o Have developed an SOP to conduct online training and assessment when required to do so.
  o For each WSH course, the Training Provider must have at least:
  a. 1 full time Principal/Director;
  b. 1 full time WSH Approved Adult Educator/ Trainer/Facilitators for each WSH course1; and

c. 2 approved full time/associate Adult Educator/ Trainer/Facilitators for each of the language

- Training Providers are to inform the WSH Council when they withdraw their training provider status for any WSH course(s), or have their status suspended or terminated by any authority.

- Training Providers are to comply with the instruction by either (i) SkillsFuture Singapore (SSG), Ministry of Manpower (MOM) or the WSH Council to stop conducting any WSH Course(s) when an investigation is ongoing, or a non-compliance is being verified. Further actions would be taken when fraudulent acts or significant non-compliances are established.

3.8   Training Venue Requirements

The TP shall ensure that the classroom used for this training has adequate seating. Facilities inclusive of writing tables must be reasonably and comfortably spaced so as to be conducive to the learning process and for the purpose of conducting the assessment. Classrooms must be equipped with projectors, whiteboards, flipcharts and specific training aides related to the course. The classroom must be adequately illuminated and ventilated. Emergency exit signs and routings must be clearly demarcated and briefed to all the course participants at the start of the course.

Unless prior approval has been granted by the CB, which had certified its WSH courses, each LSP shall maintain and conduct its WSH course at its primary Training Venue. In addition, the LSP shall ensure that the following are not shared with any other LSP:
(a) their approved Training Venue/s; and
(b) Any other equipment or loads, which are used for the conduct of the WSH course.

In the event, where the LSP wishes to conduct its WSH theory course(s) at a venue, other than the approved Training Venue, the LSP must inform the CB, which had certified its WSH course(s) at the approved Training Venue/s, of its intent to effect such a change, and it must also demonstrate to the CB that:
(a) It has an approved Training Venue at the registered address;
(b) That the proposed venue is conducive for learning; and
(c) That there are no safety and health concerns in relation to the proposed venue/s.
The LSP may conduct its WSH theory course(s) at a venue other than the approved Training Venue/s only after obtaining the CB's approval.

The requirement stated above shall apply to a LSP for single and multiple usage.

Where the CB has granted approval to the LSP to conduct the WSH theory course(s) at an alternate venue, the LSP must ensure that:
a) All training and assessment records are kept by the LSP, for courses conducted, at the alternate venue. Such records shall include the following documents:
i. Photographs of the alternate venue;
ii. Photographs of the WSH theory course(s) being conducted at the alternate venue;
iii. Layout plan of the alternate venue; and
iv. Leasing documents;
b) The records mentioned in sub-paragraph 3.5.7(a) above, are continually updated;
c) The alternate venue is only used for the conduct of WSH theory course(s). No practical

training/assessment shall be allowed at the alternate venue, unless approval has been granted by the Authorities; and
d) The alternate venue is not occupied and or used by another LSP or WSH approved training provider at any time.

The LSP must ensure that all Training Venues (including alternate venues) have been approved by the Urban Redevelopment Authority (URA) or the Housing & Development Board ("HDB"), either as a Commercial School (theory based only) or for Industrial Training (theory and practical), before it applies to be certified by the CB. Note: Tenancy agreement (e.g. from JTC Corporation or other Developers) does not constitute a URA approval. Only correspondence with letterheads bearing the office of the relevant government authorities granting the approval shall be recognised.

Paragraph above shall not apply to LSP who is applying for a once –off use of the theory training premises.

The LSP is to note that a CB's approval of any practical training venue is conditioned upon its safe and adequacy of the training facilities and equipment. The LSP shall comply with all relevant legislations including but not limited to legislations involving land use, building, fire and safety.

CHAPTER 4: KEY ASSESSMENT ADVICE

This chapter describes the following components:

A description on the general guidelines and requirements for conducting assessment is given in the reference WSQ resource websites in Part II of this document.

4.1   Assessment Strategies

A non-exhaustive list of assessment strategies and methods indicating the possible assessment methods or combination of assessment methods, as illustrated in below, can be used as a planning guide for determining the appropriate assessment strategy for the respective performance statements and underpinning knowledge in each **Supervise Work in Confined Space Operation** competency unit.

Written Summative Assessment
MCQ questions (50 questions) : 1 hr   30 mins (TP to prepare test questions and answers covering key points in the course)
Practical Performance / Case Study

4.1.1 Performance-based Methods (Practical Performance / Case Study)

Performance-based assessments have always been the preferred competency-based assessment methods. They have the benefit of authenticity. The assessments require candidates to perform a particular task according to specification or standards as a demonstration of their achievement. Performance-based assessments offer the assessor a direct source of evidence to evaluate the candidate's ability. Most of the vocational training adopts performance-based assessment, for example in nursing, performing arts, culinary, military, and technical, etc. By observing the candidates performing the real task, it is more reliable for the assessor to predict the candidate's ability to perform the same tasks in future. Some examples of performance-based assessment methods are highlighted in the sections below.

- **Workplace Performance**

  This is arguably the best method to collect reliable and authentic evidence of a candidate's actual work competencies. The fact that the assessment context is set under actual work conditions that require demonstration of actual occupational competencies maximises the degree of realism in the assessment process. Consider the assessing of a candidate's process operating skills. What best way to administer this assessment other than to get his direct supervisor observes how he actually operates the process equipment and takes the required measurements? Due to the high-quality evidence that can be derived, workplace assessment should always be an assessor's primary source of evidence collection.

In spite of the above, key considerations of this method include significant investment in resources, training of supervisors in conducting competency-based assessments and the availability of opportunities to assess the candidate across the full range of activities specified within the standards. In such cases, simulation of role-play should be considered as a supplementary means to collecting evidence.

- **Case Study/Scenario-based**

Case study is a documented study of a specific real-life situation or imagined scenario. Learners are required to analyze prescribed cases and present their interpretations or solutions supported by the line of reasoning employed and assumptions made. Normally case study is accompanied by a series of short questions to be answered

4.1.2 Questioning Methods

- **Oral Questioning with interview**

The oral questioning methods are usually used for testing underpinning knowledge items or assessing performance statement/criteria that are not observable during performance observation.

Under this method, the candidates have to give appropriate answers to the questions asked by the assessors. It is recommended that the questions designed should be able to draw out the competence from the answers provided by the candidate.

This method is usually preferred over the written method as it allows the assessors to clarify and verify with candidates during the oral questioning. Though this method can be time consuming, however, it addresses the principles of assessment; flexibility and at the same time, fairness especially in cases where candidates have difficulty in expressing themselves in writing.

- **Written Questioning**

Written forms of assessments offer wider variety of methods and it is more versatile in its design and use. The more commonly-used types of written methods that are relevant to competency-based assessment are short answers, case study, portfolio, etc. However, TP may have the option to use MCQ in the assessment.

> **Short answers**
>
Short answers require the candidate to articulate his understanding in written form but the answers are relatively short as compared to essays. These are appropriate for candidates with difficulty in written literacy. Short-answer questions take different forms:

1) Fill in the blanks

Questions are focused on finding out a response that is very certain. In this example below, the answer that is expected is a method used to identify the most common recurring problem

➢ **MCQ answers**

MCQ answers require the candidate to articulate his understanding in written form but 4 suggested answers are given. The candidate will demonstrate his competent in selecting the correct / most appropriate answer out of the 4 choices to the question asked.

Industry Requirements

Currently there is no particular assessment method mandated by the industry. Training providers are encouraged to refer to the checklists such as those suggested in the Annexes (see Annex B to D) as tools for organising assessments for performance statements/criteria and underpinning knowledge.

MOM/WSH Council officers shall conduct audits with or without notice on WSQ WSH TPs.

4.2   Graded Assessment

NA

4.3   Assessment Instruments and Tools

General Guidelines on Conducting Competency-Based Assessment

As part of the preparation of courses for accreditation, training organisations are required to prepare an assessment plan for each Competency Unit. An integrated Assessment Plan can also be prepared where competency units with similar or related subject matter are combined and assessed at the same time. The advice which follows is provided to assist in the preparation of an assessment plan.

Samples and templates of these instruments and tools as suggested in Annex B to D that could be used for this Competency unit- **Supervise Work in Confined Space Operation** are:

- An Evidence Sources Checklist to serve as a reporting snapshot of the types of evidence gathering that may be used.

- Performance Statement/ Criteria Checklist as an instrument for the recording performance statements/Criteria

- A Verbal Assessment Checklist to record answers to questions concerning Underpinning Knowledge if this is used as an alternative to written exercise.

- Written Assessment Checklists as an instrument for the recording of answers to questions concerning the performance statements and underpinning knowledge

- A Recording and Reporting Assessment Table Format as an instrument for the concise recording of competency and re-assessment information concerning the Competency Unit

- An Assessment Summary Record as an instrument for the recording of the performance statements/Criteria, assessment methods and assessment tools with the indication of the overall result (Competent or Not-Yet-Competent)

The Quality Assurance Division in WDA has set out the following general guidelines for conducting assessments, particularly competency-based assessment. While there are some points in the advice that follows which may need to be modified in the context of each Competency Unit, they represent a sound starting point for reference in developing an assessment plan.

4.3.1 Technical Principles of Assessment

Competency based assessment is the process of collecting evidence and making judgments on whether or not competency has been achieved. All assessment centres and training organisations are required to demonstrate compliance with the following four technical principles of assessment which are: Validity, Reliability, Flexibility and Fairness.

These technical principles of assessment must be addressed in the development of assessment tools, conduct of assessment, and in the design, establishment and management of the assessment process.

Validity

A valid assessment assesses what it claims to assess; evidence collected is relevant to the activity and demonstrates that the performance criteria have been met.

The principles of assessment therefore must take into account several factors:

- Assessment activities are reflective of the performance expectations of the unit/s covered

- Assessment against the competency unit/s must cover the broad range of skills and knowledge
- Assessment should integrate knowledge and skill with their practical application

- Evidence should, if possible, be gathered on a number of occasions and in a range of contexts, using different assessment methods

The validity of assessments can be enhanced when some or all of the factors below are applied:

- The assessment focuses on the appropriate areas of competence and skills

- A sufficient range of the performance of the person being assessed is sampled

- The assessment tasks resemble those encountered in the workplace. Where this is not possible (e.g. in a facilitated learning environment where participants come from different industries), scenarios and/or contexts which participants can easily relate to should be used.

- Evidence of performance is obtained after the assessment to support predictive validity

- The assessment procedure documents the links to workplace performance

- Multiple approaches to assessment are used

- The assessor can demonstrate how evidence of competency discriminates between different competencies and reinforces similar competencies

Reliability

Reliability refers to the consistency of the interpretation of evidence and the consistency of assessment outcomes. Reliability can only be achieved when assessors share a common interpretation of the unit/s being assessed.

Some or all of the following factors will contribute to reliability:

- The criteria for the judgment of competence must be stated clearly and adhered to

- Assessment practices in the assessment of candidates, need to be monitored and reviewed to facilitate consistency of judgment

- As a minimum requirement, assessors must meet the vocational competence requirements outlined in Part B of this Guide

Applying the following practices enhances reliability:

- Comparing the results of two or more assessors (moderation)

- Collecting evidence via a number of different assessment methods

- Collecting evidence across different locations and times

- Specifying clearly the competencies to be attained (documentation)

- Specifying clearly the instructions on how assessments should be undertaken and carried out

- Detailing clearly items on self / peer / supervisor assessment (documentation)

- Reviewing the training of assessors (systematic procedures)

Evidence of consistency can be obtained by assessing on multiple occasions and by using a number of methods of evidence gathering and in a range of contexts.

Flexibility

Flexibility in assessment allows for assessment either on or off the job and at mutually convenient times and situations:

- Cover both on and off-the-job components of training where applicable

- Provide for the recognition of competencies no matter how, where or when they have been acquired

- Draw on a range of methods and be appropriate to the context, task and candidate

- Be made accessible to candidates so that they can proceed readily from one Competency Unit to another

Flexibility applies to the process – not the standard.

Fairness

A fair assessment will not disadvantage TN any person and will take into account the characteristics of the person being assessed. To maintain fairness:

- reasonable adjustments are made to assessment procedures depending on the characteristics of the person being assessed

- assessment procedures and the evidence (whether product or process) must be made clear

- a consultative approach to assessment of a competency against one or all of the units in the Standards is recommended

- persons being assessed against the Standards must have the opportunity for a review and an appeal of assessment decisions

To be fair, an assessment should:

- help the person being assessed understand clearly what is expected and what form the assessment will take

- be equitable to all groups of people being assessed (make reasonable adjustments to the methods used for collecting evidence depending on the characteristics of the person(s) being assessed)

- have criteria for judging performance that are made clear to all those seeking assessment

- involve a participatory approach to assessment that is agreed to by the assessor and the person being assessed

- provide opportunities that allow the person(s) being assessed to challenge assessments with provision for reassessments

4.3.2 Collecting Evidence of Competency

Assessment of competency should involve demonstration of competence in all dimensions of competency (task skills, task management skills, contingency management skills, job role / environment skills and transferability). Evidence should involve a variety of evidence types, where possible.

At least one form of direct evidence should be considered to make a judgment on the practical performance component of the competencies, for example, observation of a simulated performance.

Supplementary and indirect forms of evidence should be used, where possible, in support of direct evidence to:

- extend on direct forms of evidence, for example, a range of situations, with different types of persons being assessed, or in conflict situations

- facilitate transferability of competencies to new situations and contexts

- assess underpinning or required knowledge and understanding

- provide information on possible performance in rarely occurring but critical situations, for example, theft, breakdown and industrial conflict

Third party reports are used only to verify and support evidence obtained using other methods, unless the third party is a qualified assessor and is familiar with the standards of the Competency Unit mentioned.

Self-assessment against the Competency Units can make the person being assessed aware of the standards they are expected to achieve, prepare   them for formal assessment and/or contribute towards final assessment particularly as part of recognition of current competencies.

Rules of evidence

Evidence of competence must be:

- Valid evidence

  Evidence of competence must cover the broad range of knowledge and skills required to demonstrate competence. Assessors need to ensure that the evidence meets the specified criteria of the standards. Evidence should also match or reflect the type of performance that is being assessed.

- Sufficient evidence

  This relates to the amount of evidence. Assessors must collect enough evidence to satisfy that the candidate is competent across all competency elements taking into account the contexts for application of the skills / knowledge required in performing the Competency Unit.

  Evidence should be collected from multiple sources and at different time where possible.

- Current evidence

  An assessor needs to determine the currency of the evidence of competence.

- Authentic evidence

  Assessors need to be sure that the evidence is the candidate's own work. To determine authenticity, validation of the evidence by a third party may be necessary.

(b)   Questioning

Written and or oral questioning is used to assess underpinning knowledge and performance expectations that are not observable during practical performance. Written test could be done through electronic means or question paper.

Where candidates are unable to express a response during oral questioning, other means of response could be used, such as writing, drawing or demonstrating. In situation where knowledge can be demonstrated or implied through practical performance, questions need not be asked.

(c)   Documentary Review

Documentary evidence can be recent work or current work completed by the candidate during the practical performance, which may includes working in team to implement improvement to work processes or products.

Where evidence is lacking from the documentary evidence, assessor will use supplementary questions to gather evidence during an interview with the candidate or gather the evidence from the candidate's supervisor.

In addition, the assessment instruments and tools for the conduct of the assessment planned that may be relevant to this programme include:

- Practical Performance Checklists to serve as reporting mechanism for several Performance Statements or Criteria that may be achieved through the use of different assessment methods

- An Evidence Sources Checklist to serve as a reporting snapshot of the types of evidence gathering that may be used.

- An Evidence Plan Checklist to serve as a reporting instrument to record a plan of expected evidence materials.

- A Verbal /Knowledge Assessment Checklist to record answers to questions concerning Underpinning Knowledge if this is used as an alternative to written exercise

In summary, the range of assessment tools utilised in assessing the performance can include work-related performances, projects, work related portfolio, case studies or practical tasks. The knowledge-based test may be written or oral, based on the underpinning knowledge specified in the evidence guide in the appropriate units of competency.

Other Assessment Advice

a) Collecting Evidence

Evidence must be gathered from a range of contexts that will enable a fair and reliable judgment about the participant's competence. The assessment process and collection of evidence must be valid, reliable, flexible, and fair while the evidence collected must also be valid, sufficient, current and authentic.

Evidence gathering methods should be culturally inclusive and take into account the language, literacy and numeracy skills of the participant.

Reasonable adjustments may be considered for participants with physical and/or sensory disabilities or learning difficulties that may require support to undertake assessment. Such support could include physical, mechanical or technical aids, extra time for assessment or specially devised or adapted methods of assessment. For example, participants who do not have opportunities to be observed conducting live meetings or briefings may be assessed through interviews or simulations.

Evidence of competency must include occupational safety and health and other legislative aspects of the job.

b)   Recording and Reporting Assessment

The candidate should be given specific and constructive feedback on the assessment outcome. Information to be captured in an assessment record includes the Competency Unit and elements, the assessor name, assessment date, candidate name, the assessment evaluation, and any subsequent appeal and outcome. A suggested format is given in *Annex E.*

c)   Recognition of Prior Learning

An individual who has acquired skills and knowledge relevant to this unit through previous learning or work experience may be assessed for recognition of prior learning. Where skills and knowledge have been gained through experience, the applicant will need to provide evidence of competence. Documentary evidence of formal assessment should be provided by the applicant such as certification obtained under National Skills Recognition System (NSRS) Competency Units or other recognised certification bodies.

d)   Workplace Safety and Health Requirements

This programme should be delivered and assessed in accordance with Workplace Safety and Health (WSH) regulations of Singapore. Candidates should only be required to undertake instruction and assessments in environments that comply with WSH regulations of Singapore so as to ensure that everyone associated with learning in this programme commits to maintaining a safe environment. The following outlines where people can obtain more information and advice on the type of control measures used in the training programme to eliminate WSH risks are also addressed. Some suggested strategies that could apply to this training programme are:

- establish policies for safety and health policies

- establish roles and responsibilities with respect to safety and health

- specify procedures for safety and health

- communicate safety and health instructions to trainers, assessors, participants and administrative staff

- maintain safety and health records

There should be an emphasis on the interaction between everyone involved in the learning process. Mutual consultation should cover all aspects of the learning process. Trainers and assessors should make the participants aware of the WSH issues throughout the Competency Unit in theoretical and practical situations. For more information on WSH regulations of Singapore please access **www.mom.gov.sg**.

4.3.3   Code of Practice for Assessors

Conflict of interest sometimes arises for assessors. Under these circumstances, the conflict should always be declared. Potential forms of conflict of interest in the assessment process and/or outcome may include:

- a pre-established, personal relationship between the assessor and the person being assessed
- financial implications for the assessor
- employment opportunities for the assessore
- power opportunities for the assessor

Referrals for opinions to other internal assessor/s or to an external assessor/s can help to establish fair practice. The referrals may involve informal verbal consideration, a formalised written document, or a combination of the two.

Care must be taken to conduct assessment practices that do not perpetrate possible workplace discriminatory practices. As well, assessors must not use the assessment to coerce personal or professional favours or to gain economic advantage TN from the person/s being assessed or potential client groups.

Personal or interpersonal factors (biases) not related to the assessment decision or process may include the characteristics of the person being assessed and/or the assessor - for example, race, gender, language background, religious background, political affiliation, sexual orientation, physical disabilities, physical appearances, marital status, age, skin colour, social class and/or ethnic background. Such biases are always to be avoided.

Assessment specialists have developed an international code of ethics and practice (The National Council for Measurement in Education i.e. NCME). The Code of Practice below is based on the international standards:

- The differing needs and requirements of the person(s) being assessed, the local enterprise(s) and/or industry are identified and handled with sensitivity

- Potential forms of conflict of interest in the assessment process and/or outcomes are identified and appropriate referrals are made, if necessary

- All forms of harassment are avoided throughout the planning, conducting, reviewing and reporting of the assessment outcomes

- The rights of the candidate(s) are protected during and after the assessment

- Personal or interpersonal factors that are not relevant to the assessment of competency must not influence the assessment outcomes

- The candidate is made aware of rights and processes of appeal

- Evidence that is gathered during the assessment is verified for validity, reliability, authenticity, sufficiency and currency

- Assessment decisions are based on available evidence that can be produced and verified by another assessor

- Assessments are conducted within the boundaries of the assessment system policies and procedures

- Formal agreement is obtained from both the candidate(s) and the assessor that the assessment was carried out in accordance with agreed procedures

- Assessment tools, systems, and procedures are consistent with equal opportunity legislation

- The candidate is informed of all assessment reporting processes prior to the assessment

- The candidate is informed of all known potential consequences of decisions arising from an assessment, prior to the assessment

- Confidentiality is maintained regarding assessment results

- Results are only released with the written permission of the candidate(s)

- The assessment results are used consistently with the purposes explained to the candidate

- Self-assessments are periodically conducted to compare current competencies against the Advanced Certificate in Generic Manufacturing competencies

- Professional development opportunities are identified and sought

- Opportunities for networking amongst assessors are created and maintained

- Opportunities are created for technical assistance in planning, conducting and reviewing assessment procedures and outcomes

Sources: CU5 – Develop Competency-Based Assessment
            CU6 – Conduct Competency-Based Assessment

4.2   Industry Requirements

- The learner must pass the written summative assessment in order to be issued with the certificate of successful completion.

- Passing mark for the written assessment is 65%.

- For summative written assessment, the default is Individual assessment unless otherwise instructed. The number of attempts a candidate is allowed to be assessed in the written assessment is ONE. The candidate certified "NOT YET COMPETENT" after the assessment, the candidate must be re-coursed.

- MOM/WSH Council officers shall conduct audits with or without notice on WSQ WSH TPs.

- To facilitate uploading of the assessment results, TPs shall install the Automated Marking System (AMS) and its associated hardware.

- The TP personnel who is authorised to use the AMS must also ensure that the assessment results are updated in SSG's TPGate system.

- TPs are to upload the test results to MOM/ WSH Council within 5 working days following the completion of the course assessment. All errors must be rectified within 24 hours for re-submission of the affected results to MOM/ WSH Council via WSH TRS. This is in addition to the uploading of assessment results to SSG via TPGateway.

- Authorities (i.e. MOM/ WSH Council) may request from TPs information on the course. TPs are to ensure that the information given to the Authorities are accurate and updated.

Note: For system(s) or requirement(s) administered by the relevant authorities, i.e. MOM/ WSH Council, the TP shall fulfil the requirements and follow up with the agencies accordingly.

CHAPTER 5: ADULT EDUCATOR REQUIREMENTS (Mandatory Section)

This chapter articulates the Adult Educator (AE) requirements covering these components:

5.1 Trainer/Facilitator Requirements

Trainer Requirements

The trainer must be able to demonstrate current competency in the Competency Units delivered. Current competency will usually be demonstrated by the completion of a relevant technical or vocational qualification, or relevant work experience within the generic manufacturing industry, it is recommended that the trainer hold a qualification higher than the level of qualification being delivered. In the nutshell, a trainer of the Competency Unit must:

- Have demonstrated competency for the Competency Unit to be delivered
- Have at least three (3) years of relevant industry experience at supervisory or managerial level, including evidence of maintaining currency, for example, through recent work in the industry as supervisor, consultant or trainer, or professional development or active membership of a professional association
- Be certified competent in preparation, delivery and evaluation of training sessions or relevant National Trainer Competency Standards certification or Full Advanced Certificate in Training and Assessment or Advanced Certificate in Learning and Performance (ACLP) or Diploma in Adult Continuing Education (DACE) or Diploma in Design and Development of Learning for Performance (DDDLP).
- Have completed WSQ Specialist Diploma in Workplace Safety and Health or its equivalent or higher
- Have completed Safety Instruction Course (Manhole) for Supervisors or its equivalent or; Confined Space Assessor or its equivalent or; an established track record in the delivery of the Safety Instruction Course (Manhole) for Workers or its equivalent .
- All trainers/adult educators are required to attain 10 hours (minimum) annually by attending Continuing Professional and Development (CPD) courses conducted by appointed training providers. For more details, refer to Train-the-Trainer (T[3]) Programme in WSH Council website (www.wshc.sg)
- During the administration of the written assessment, there shall be an assessor to ensure the integrity of the assessment process. The trainer for the course is not permitted to be the assessor for the same course during the assessment. An invigilator can be appointed in place of the assessor, but the trainer for the course must be on standby to make clarification on the questions where needed.

5.2 Developer Requirements

- AE should be competent in the WSQ technical or vocational qualification, at an equivalent WSQ level or higher. This should also include any mandatory or legal certification or qualification. Alternatively, a qualified and experienced developer can work in consultation with an SME in developing a courseware.

- AE should possess at least 5 years of domain work experience within the sector.
- AE must have at least 3 years of experience in developing adult learning curriculums or have DACE or Diploma in Design and Development of Learning for Performance (DDDLP) qualification

5.3   Assessor Requirements

The assessment is to be carried out by approved assessors who meet the assessor requirements for this unit. Assessors must:

- Have demonstrated competency under this competency unit.
- Have at least three (3) years of relevant industry experience at supervisory or managerial level, including evidence of maintaining currency, for example, through recent work in the industry as supervisor, consultant or trainer, or professional development or active membership of a professional association.
- Be certified competent in the planning and conducting of competency-based assessments or relevant National Trainer Competency Standards certification such as, ACTA or Advanced Certificate in Learning and Performance (ACLP) or Diploma in Adult Continuing Education (DACE) or Diploma in Design and Development of Learning for Performance (DDDLP).
- WSQ Specialist Diploma in Workplace Safety and Health or its equivalent or higher
- Have completed Safety Instruction Course (Manhole) for Supervisors or its equivalent; or Confined Space Assessor or its equivalent; or an established track record in the delivery of the Safety Instruction Course (Manhole) for Workers or its equivalent.

Assessors must follow the assessment guidelines and are expected to carry out the assessment activities which include a pre-assessment briefing, careful evaluation of the evidence, feedback to the candidate and recording the assessment outcome.

5.4   Facilities, Equipment and Tools Information
Identify the required and / or recommended facilities, equipment, and tools needed for the training and assessment. Special attention should be paid to facilities, equipment, and tools for learners with disabilities or special needs. For example but not limited to,

- Room with tables and chairs
- Flip-chart/whiteboard
- Audio/visual aids
- Office stationery (pens, markers, writing materials, graph paper, etc)
- Application software pertaining to data collection
- WSHA and its subsidiary legislation
- Safety Data Sheet
- Technical advisory for Confined Space
- Personal Protection Equipment
- Gas testing instruments
- Open communication equipment
- First aid equipment

CHAPTER 6: SUMMARY OF MANDATORY SECTIONS / INFORMATION

^This chapter summarizes all the mandatory sections and required information, for easy reference. TPs / Adult Educators are expected to note the information indicated in the following Sections and to comply with the stated requirements, where appropriate:

Section	Title
2.6	Recommended Learning Hours (RLH)
2.7	Recommended Class Size and Trainer-Trainee Ratio
2.8	Recommended Assessor to Candidate Ratio
4.1	Content Coverage
	On percentage of items under Range and Application and Evidence Sources to be covered
4.5	Learning Strategies and Methods - Industry Requirements
5.1	Assessment Strategies - Industry Requirements
6.1	Trainer Requirements
6.2	Developer Requirements
6.3	Assessor Requirements

^Total WSH Presentation Slides

Total WSH presentation slides will be issued upon approval of the Training Provider. The materials are provided strictly for the explicit use and guidance of training providers for the conduct of this course. Any other use of the materials or parts thereof, reproduction, publication, distribution, transmission, re-transmission, or storage in a retrieval system in any form, electronic or otherwise, for purposes other than that expressly stated above without the express permission of WSH Council is strictly prohibited.

CHAPTER 7: RESOURCE INFORMATION

The various literatures, journals, articles and researched information on Perform Work In Confined Space Operation competency unit are listed below

- Workplace Safety & Health Act
- WSH(General Provisions) Regulations
- WSH(First Aid) Regulations
- WSH(Risk Management) Regulations
- WSH(Confined Spaces) Regulations 2009
- WSH(Noise) Regulations 2011
- WSH(Scaffold) Regulations 2011
- WSH (Operation of Cranes) Regulations 2009
- Factories (Asbestos) Regulations
- Code of Practice on WSH Risk Management
- Code of Practice for Working Safely at Height
- Code of Practice on Safe Lifting Operations in the Workplaces
- WSH Guidelines Safeguarding against Falling Objects
- Confined Spaces - Technical Advisory
- Lifting Equipment - Technical Advisory
- Flammable Hazardous Substances - Technical Advisory
- Safe Use of Machinery - Technical Advisory
- Work at Height - Technical Advisory
- Gas Cutting/Hot Work (Singapore Standard Document 510)
- Assessment Guidelines (published by WSH Council)
- Singapore Standard SS 548: 2009 Code of Practice for Selection, Use, Care and Maintenance of Respiratory Protective Devices.

7.1 TN Review Processes

The Technical Notes should include the process for a regular review of the continuing relevance and quality of the document. A review should take place when there are changes such as industry developments, new technologies, work processes and legislation where applicable, or in response to feedback. Information on the feedback channel should be provided.

PART II
WSQ & Supporting Resources

Online WSQ Resources from WDA

This section highlights relevant WSQ resources that could be found online at WDA's website, and which are useful to the users. If WSQ information can be found at WDA's website, it should not be repeated in the Guide.

Glossary of Terms

This section presents the list of terms and abbreviations used in this document as well as terms frequently encountered in the training and assessment.

Glossary Terms	Description
Competency-based Assessment	Judging the degree to which a candidate has met predetermined criteria; candidates must show that they can do certain tasks in a prescribed way and that they know the context of the task and why it must be performed in certain ways.
Assessment Criteria	The standards against which assessments are judged; they must be explicit before the assessment is agreed and undertaken.
Assessment Instruments	The range of questionnaires, tests, checklists, and other materials used to assess specific skills, knowledge, qualities, or understanding; for example, there are tests designed to pick out weaknesses in processing of sales order, or tell us how confident we are; underpinning knowledge can be tested through oral questioning and skills by using real or simulated work tasks.
Assessment Plan	An agreed statement between candidate and assessor, normally documented, of how the candidate will demonstrate competence; the plan cover the whole award and whole unit of competence; assessment plan specifies what will be assessed, the criteria for assessment, how the assessment will be undertaken and by whom, the time-scale involved and any special arrangements that need to be made: the assessment plan is usually for individuals but can also be for groups.
Training Provider	Training Providers are accredited with WDA to conduct the training and assessment under the Workforce Skills Qualifications.
Authentic	Authentic evidence can be established as being that of the candidate rather than that of another, or of a group; if group work is used as evidence, the candidate's contribution should be clearly identifiable. Determining whether performance evidence is authentic is straightforward if the assessor is observing the candidate actually doing something at work
Candidate	A person who is preparing to be assessed for a skills standard; the term is used in this document to indicate anyone who is presenting themselves for assessment in the workplace or training school; depending on the context, the candidate can be an employee/client.
Certification	The process of registration, assessment, recording results, completing documentation, applying for and receiving certificates.
Certification Body (CB)	A Certification Body (CB) is an organization accredited by the Singapore Accreditation Council (SAC) to assess and certify a WSH Training Provider's compliance to ISO 29993:2017 and MOM/WSH Council requirements.

Glossary Terms	Description
Competency	The ability to perform within a work-related function or occupational area to national standards expected in employment; the ability to produce results that are valuable to the employer and that make the employer valuable to the customer or consumer, that someone is willing to pay; employers and the public will not pay for what someone knows or feels; knowledge and attitudes are only useful if they help the person produce some valuable product or service.
Competency Unit	A group of elements of competence which together constitute a particular work role, duty or function, and which form the smallest grouping of competence able to be recognized separately for certification.
Currency	Refers to evidence which shows the candidate can competently perform at the time of the assessment; evidence less than two years old is usually required. For example, a candidate's evidence that he/she has worked in a retail store 15 years ago would not be considered current for a unit in retail nor would someone who has been out of work for the last two years qualify for a unit in retail. Generally, areas that deal primarily with people can use evidence that dates back over a greater number of years than occupational areas where rapid changes in technology are likely to make skills obsolete even those acquired only a few years before.
Evidence	Information from a variety of sources which proves competence or meeting the criteria.
Feedback	Reviewing a process and giving constructive oral or written comment to the candidate or candidates so that they understand the strengths and weaknesses of their performance / evidence and understand what to do as a consequence.
Practical Performance	Observation of performance at the actual workplace with real guests or clients to assess knowledge, skills and attitude.
Prior Experience	Experience acquired by the candidate before registering for an assessment which may provide evidence against units or elements of competence.
Prior Learning	Learning acquired by the candidate before registering for an assessment; this learning may or may not be certificated.
Qualification	A certificate legally provided which indicates that the holder has reached a necessary standard.
Quality Assurance	The methods by which standards are regularly checked and monitored to ensure that procedures are done in a certain way.
Reliability	The degree to which an assessment can be administered with the same results to others, the consistent ability of the assessment or the assessor to accurately distinguish between competent and non-competent performance.
Role Play	A realistic exercise to assess knowledge, skills and attitudes. It replicates a real work situation with the assessor and candidate taking on pre-defined roles according to instructions.
Simulation	A realistic exercise set up specifically to assess knowledge, skills or understanding; it should replicate a real work situation and should be used in circumstances where it would be difficult or costly to assess within the work context (e.g. dealing with complaints).

Glossary Terms	Description
Skill	The ability to do a task or perform an activity.
Statement of Attainment (SOA)	Certificate testifying that the candidate has the competencies identified in the competency standard. It can be achieved through training and assessment, assessment only pathway and recognition of prior learning (i.e. current work competencies, work experiences and prior learning)
Sufficiency	Evidence presented for accreditation is considered sufficient when they are enough to prove competence. Examples of insufficient evidence: letter from an employer which simply claims that the candidate is competent but does not say how that has been determined; documentation included in portfolio without any explanation as to why it is valid; only one observation of someone performing a task
Technical Notes (TN)	The TN is a document that provides training and assessment advice to achieve effective training and assessment.
Validity	An assessment process has validity if it measures what it is supposed to measure. Valid assessment implies that the method(s) used are the ones most likely to give an accurate picture of that individual's competence within a particular area. No evidence is automatically valid or not valid. It is the candidate's interpretation of that evidence and how they justify its relevance that makes it valid.

List of Acronyms

To provide a list of acronyms used to aid users. This glossary of used acronyms commonly encountered in the training and assessment.

Acronyms	Meaning
ABC	Association of Boards of Certification
ACTA	Advanced Certificate in Training and Assessment
TP	Training Provider
AWWA	American Water Works Association
C	Competent
CBA	Competency-based Assessment
CE	Competency Element
CP	Code of Practice
CU	Competency Unit
TN	Technical Notes
EPA	US Environmental Protection Agency
NYC	Not-Yet-Competent
OJT	On-the-Job Training
PET	Pre-employment Training
PC	Performance Criteria
PI	Process Industry
PS	Performance Statement
PUB	Public Utilities Board
RLH	Recommended Learning Hours
RPL	Recognition of Prior Learning
SDF	Skills Development Fund

Acronyms	Meaning
SOA	Statement of Attainment
UK	Underpinning Knowledge
WDA	Workforce Development Agency
WSH	Workplace Safety and Health
WSQ	Singapore Workforce Skills Qualifications

Version Control Record

An example is given below:

Version	Amendment Date	Changes	Author	Approved
1.0	20 May 2013	First Official Issue	ASPRI-IPI	WDA
2.0	21 Jan 2022	Updates	WSH Council	WSH Council
3.0	1 Sep 2023	Updates	WSH Council	WSH Council

Instructional Strategy Selection Chart

Instructional Strategy	Cognitive Domain (Bloom, 1956)	Affective Domain (Krathwohl, Bloom, & Masia, 1973)	Psychomotor Domain (Simpson, 1972)
Lecture, reading, audio/visual, demonstration, or guided observations, question and answer period	1. Knowledge	1. Receiving phenomena	1. Perception 2. Set
Discussions, multimedia CBT, Socratic didactic method, reflection. Activities such as surveys, role playing, case studies, fishbowls, etc.	2. Comprehension 3. Application	2. Responding to phenomena	3. Guided response 4. Mechanism
On-the-Job-Training (OJT), practice by doing (some direction or coaching is required), simulated job settings (to include CBT simulations)	4. Analysis	3. Valuing	5. Complex response
Use in real situations. Also may be trained by using several high level activities coupled with OJT.	5. Synthesis	4. Organize values into priorities	6. Adaptation
Normally developed on own (informal learning) through self-study or learning through mistakes, but mentoring and coaching can speed the process.	6. Evaluation	5. Internalizing values	7. Origination

The chart does not cover all possibilities, but most activities should fit in. For example, self-study could fall under reading, audio visual, and/or activities, depending upon the type of program you design.

(Extracted from http://www.nwlink.com/~donclark/hrd/strategy.html, accessed 19 Sep 2010)

Annex A2

Evidence Sources Checklist

Name of Candidate and Organisation	
Name of Assessor	
Date & Venue of Assessment	

Summary of evidence sources for the Competency Unit(s)		
Competency Unit(s): **SUPERVISE WORK IN CONFINED SPACE OPERATION**		
Performance Criteria (PC)	**Evidence Sources**	
	MCQ & Written Questioning	Practical Performance / Case Study
PC1.1 Identify and communicate the legal requirements on confined space work		
PC1.2 Identify and explain the roles and responsibilities of all personnel working in a confined space		
PC1.3 Apply appropriate means to communicate to workers on the legal requirements when working in a confined space		
PC2.1 Identify types of confined space		
PC2.2 Identify atmospheric hazards and their consequences		
PC2.3 Identify physical and biological hazards and their consequences		
PC2.4 Conduct a risk assessment		
PC2.5 Implement control measures to eliminate various confined spaces hazards		
PC2.6 Propose optimum and acceptable atmospheric conditions for safe entry and continual work in a confined space		
PC3.1 Identify the elements of an effective confined space entry and how		
PC3.2 Raise and comply with a Permit-to-Work system		
PC3.3 Check to ensure that all workers are briefed on the Confined space Entry Permit		
PC3.4 Terminate the entry permit upon completion of work		
PC4.1 Apply gas detection instruments gas detection instruments in		
PC4.2 Read and interpret results shown on gas testing and gas detection		
PC4.3 Identify the Limitations of Gas Detection Instruments		

PC5.1 Conduct inspection to check that the workers identify, select and		
PC5.2 Verify that correct procedures are used by the worker to identify,		
PC5.3 Conduct inspection to fit check of air purifying respirators		47
PC5.4 Monitor PPE are properly prepared, stored and maintained.		
PC5.5 Monitor respiratory protection equipment for use in confined space		
PC6.1 Communicate the Emergency Response Plan to workers in		
PC6.2 Activate rescue personnel in accordance with the Emergency		
PC6.3 Conduct inspection to ensure that workers wear full-body harness		
PC6.4 Conduct inspection on the correct use of self contained breathing		
PC6.5 Operate communication devices		
PC6.6 Initiate evacuation and self rescue		

Annex B

Performance Criteria Checklist

Name of Candidate and Organisation	
Name of Assessor	
Date & Venue of Assessment	
Competency Unit(s)	**Supervise Work in Confined Space Operation**

Assessment Strategy		Performance Statement Assessed	Result		Remarks
			C	NYC	
1.	**Written / Oral Questioning**	**PC1.1** Identify and communicate the legal requirements on confined space work			
		PC1.2 Identify and explain the roles and responsibilities of all personnel working in a confined space			
		PC1.3 Apply appropriate means to communicate to workers on the legal requirements when working in a confined space			
		PC2.1 Identify types of confined space			
		PC2.2 Identify atmospheric hazards and their consequences			
		PC2.3 Identify physical and biological hazards and their consequences			
		PC2.4 Conduct a risk assessment			
		PC2.5 Implement control measures to eliminate various confined spaces hazards			
		PC2.6 Propose optimum and acceptable atmospheric conditions for safe entry and continual work in a confined space			

			PC3.1 Identify the elements of an effective confined space entry and how the elements of the programme relate to the various WSH regulations			
			PC3.2 Raise and comply with a Permit-to-Work system			
			PC3.3 Check to ensure that all workers are briefed on the Confined space Entry Permit			
			PC3.4 Terminate the entry permit upon completion of work			
			PC4.1 Apply gas detection instruments gas detection instruments in normal atmospheric condition and abnormal condition			
			PC4.2 Read and interpret results shown on gas testing and gas detection instruments			
			PC4.3 Identify the Limitations of Gas Detection Instruments			
			PC5.1 Conduct inspection to check that the workers identify, select and use the proper PPE for work/entry into confined space			
			PC5.2 Verify that correct procedures are used by the worker to identify, select, inspect and use respiratory protective equipment			
			PC5.3 Conduct inspection to fit check of air purifying respirators			
			PC5.4 Monitor PPE is properly prepared, stored and maintained.			
			PC5.5 Monitor respiratory protection equipment for use in confined space works are properly prepared, stored and maintained.			
			PC6.1 Communicate the Emergency Response Plan to workers in accordance with the organizational procedure			

		PC6.2 Activate rescue personnel in accordance with the Emergency Response Plan			
		PC6.3 Conduct inspection to ensure that workers wear full-body harness correctly when required			
		PC6.4 Conduct inspection on the correct use of self contained breathing apparatus (SCBA)			
		PC6.5 Operate communication devices			
		PC6.6 Initiate evacuation and self rescue			
2	**Practical Performance / Case study**	PC2.4 Conduct a risk assessment			CE 2, PPT Case Study: Cleaning of food reactor
		PC2.5 Implement control measures to eliminate various confined spaces hazards			
		PC5.1 Conduct inspection to check that the workers identify, select and use the proper PPE for work/entry into confined space			CE 5, PPT Practical Performance: Formulate an inspection checklist to identify, select and use of proper PPE and RPE into confined space
		PC5.2 Verify that correct procedures are used by the worker to identify, select, inspect and use respiratory protective equipment			

Annex C

Evidence Checklist

Evidence Plan		
Name of candidate & Organisation		
Name of assessor		
Competency Unit(s)	**Supervise Work in Confined Space Operation**	
Sources of Evidence	**Expected Evidence**	**Received**
Written/ Oral Questioning		**o**
Case Studies		**o**
Skills development activities		
Arrangements		

Agreement
o **Evidence to be submitted by:**
o **Interview date:**
o **I agree to the evidence plan:**

    o **Candidate** _____ **(name)** _____ **(signature)**

    o **Assessor** _____ **(name)** _____ **(signature)**

Annex D

Verbal /Knowledge Assessment Checklist

Record of Interview Questions	
Name of Candidate & Organisation	
Name of assessor	
Date and Venue of Assessment	
Competency Unit(s)	**Supervise Work in Confined Space Operation**

Questions	Satisfactory Response		Remarks
	Yes	No	
UK 1 Legal requirements on confined space as stipulated by the WSH act and its subsidiaries legislation	o	o	
UK 2 Duties and responsibilities of a Confined space	o	o	
UK 3 Duties and responsibilities of all other personnel	o	o	
UK 4 Knowledge of the types of confined space	o	o	
UK 5 Knowledge of the types of atmospheric hazards	o	o	
UK 6 Knowledge of the types of physical and biological	o	o	
UK 7 Knowledge of the risks when working in a	o	o	
UK 8 Knowledge of the symptoms of persons exposed	o	o	
UK 9 Knowledge of the control measures to eliminate	o	o	
UK 10 Knowledge of the optimum and acceptable	o	o	
UK 11 An effective confined space entry programme and its	o	o	
UK 12 Elements of a confined space entry programme in	o	o	
UK 13 Confined space Entry Permit System	o	o	
UK 14 Procedures to raise a permit-to-work request	o	o	
UK 15 Safety measures for confined space entry & work	o	o	
UK 16 Safe work procedures for working in a confined	o	o	
UK 17 Types of common gas meter detectors, their uses	o	o	
UK 18 Types of personal protective equipment (PPE) and	o	o	
UK 19 Types of respiratory protection equipment and	o	o	
UK 20 Maintenance and inspection method and	o	o	
UK 21 Maintenance and inspection method and	o	o	
UK 22 Elements of an Emergency Response Plan (ER)	o	o	
UK 23 Elements of a rescue operation plan	o	o	
UK 24 Identify hazardous conditions which require	o	o	
UK 25 Communicate the evacuation conditions	o	o	
UK 26 Responsibilities of attendant in an emergency	o	o	

UK 27	Rescue arrangements	o	o	
UK 28	Self-rescue procedures	o	o	
UK 29	Alarms and communications	o	o	
UK 30	Rescue and respiratory protection equipment for	o	o	
UK 31	Rescue equipment for confined space operations	o	o	
UK 32	Entry and non-entry rescue methods	o	o	
UK 33	Retrieval techniques for injured personnel	o	o	

The candidate's underpinning knowledge and understanding was:

Satisfactory o **Not satisfactory** o

Signed by the candidate: .... **Date:** ....

Signed by the assessor: .... **Date:** ....

Feedback to candidate:

Annex E

Suggested Format for Recording and Reporting Assessment

Competency Unit(s)	Supervise Work in Confined Space Operation
Name of Candidate & Organisation	
Name of assessor	
Date and Venue of Assessment	

Assessment Criteria For…	Competent	Not Yet Competent

Feedback to participant:

Assessor's Signature :_____**Date:_____**

Re-assessment information

Date of re-assessment _____ Item/s to be re-assessed	Competent	Not Yet Competent

Assessor's Signature :_____**Date:_____**

Annex F

Format of Safety Pass

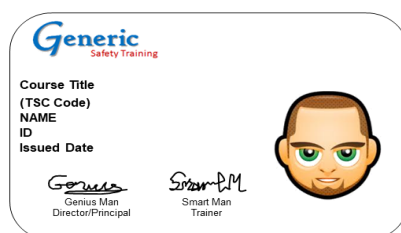The safety pass is to be issued by accredited Training Providers to all trainees who are certified competent.

"Safety Pass/Card" is to be issued, in accordance with the format shown in Annex F. Safety Pass and/or Certificate of Course Completion is to be issued, to candidate who is assessed "Competent" in this Competency Unit.

Do note that the reference below is intended only to present the format of the pass and should not be used as an actual template for direct printing.

Guidelines for the credit card size pass for MOM WSH courses by TPs

3 ⅜ × 2 ⅛ inch (85.60 × 53.98 mm)

Front view

Generic
Safety Training

Course Title
(TSC Code)
NAME
ID
Issued Date

Genius Man
Director/Principal

Smart Man
Trainer

Font Type: Arial
Font size (Course title): Recommended 8pt or larger
Font size (Others): Recommended 6pt or larger
Photo size: 3.1cm X 2.4cm

• Pass should contain no less than the information depicted in the guide
• TP may use their own reference format for serial number
• Course Title should be the title as indicated in the WSQ Framework(CS/CTAG). The Technical Skills and Competency (TSC) Code and Title, should also be printed in parentheses ( ) aligned to the title reflected in either the Competency Standards (CS) or TSC. However, it is not required to print the TSC Course name if it is the same as the SC/CTAG title
• ID should be FIN, NRIC Passport Number or any unique official identifier
• Course Venue should reflect address of training centre (not business office, etc) which pass holder attended
• Trainer signature should reflect the trainer that conducted the course

Back view

1. Use of card is governed by terms and conditions of < Name of Training Provider>
2. < Name of Training Providers> is a SkillsFuture Singapore Agency's Training Provider at the date of issuance of the pass
3. This card is not transferrable
4. The course is conducted @.< Course venue>
5. Holder of the card has been certified competent in the <**Course Title>** on the issued date as indicated in front.
6. This card will expire <xx> years from the date of issue.
7. This card is the property of < Name of Training Provider> and must be returned on request.
8. Card shall be retained if it has been tampered with, misused or replaced.
9. This card is issued by < Name of Training Provider>. If found, please return to < Name of Training Provider>. at <Address of < Name of Training Provider>..
10. For enquiries, please contact < Name of Training Provider>. > at <hotline>

Font Type: Arial
Font size : Recommended 6pt or larger

Annex G

Certificate of Successful Completion

"Certificate of Successful Completion" is to be issued, in accordance with the format shown in Annex G. This is in addition to the Statement of Attainment (SOA) issued by SSG for WSQ courses.

•Certificate should contain no less than the information depicted in the guide

•TP may use their own reference format for serial number

•ID should be FIN, NRIC Passport Number or any unique official identifier

•For TP Course, Course Title should be the corresponding title as indicated in WSQ System Framework(CS/CTAG). The Technical Skills and Competency (TSC) Code and Title should be printed in parentheses ( ) aligned to the title reflected in either the Competency Standards (CS) or TSC. However, it is not required to print the TSC course name if it is the same as the CS/CTAG Title

•Course Venue should reflect address of training centre (not business office, etc) which pass holder attended

•Certificate should indicate that <<Name of TP>> is a Training Provider (TP) approved by SkillsFuture Singapore for <<Course Title of corresponding course>>

•Trainer signature should reflect the trainer that conducted the course

•Management of safety certificate should be in accordance to the requirements under TP scheme