

BSBWHS508

Manage WHS hazards associated with plant



Copyright © 2018 CSTC Pty Ltd

All rights reserved. No part of the contents of this publication may be reproduced or used in any form or by any means – graphic, electronic, or mechanical including photocopying, digitising, recording, or information storage-and-retrieval systems – without the written permission of CSTC Pty Ltd.

ASSESSMENT FOR BSBWHS508

Student name	Jacqueline Liew Mei Hui
Date of assessment submission	20/08/2015
Trainer/Assessor's name	
Date of assessment marking	Click here to enter a date.
Outcome for unit	☐ Competent ☐ Not Yet Competent

TASK INSTRUCTIONS

- The assessment for this unit of competency consists of the following:
 - A series of activities:** Some of these activities will require you to provide a response within this document, others will require you to gather evidence to demonstrate your knowledge and skills (overview below)
 - Quiz:** You will be required to complete a series of questions to demonstrate your knowledge and skills.
 - Practical task:** You will be required to have an observer attest to your knowledge and skills and sign a report to this effect.
- At times, you will be provided with a specific business context to which you must respond, otherwise it is anticipated that you will use a workplace of your choosing (your own, or hypothetical) to provide the context to the task.
- At all times, the responses in your assessment must reference **Australian** (Queensland or Federal) documentation, including legislation, regulations, codes of practice, standards and guidance publications.

ACTIVITY OVERVIEW		REQUIRED FOR SUBMISSION
1.	Legislative obligations regarding plant	Workbook response (below)
2.	Identifying/assessing plant hazards and risks	a) Workbook response (below)
3.	Implementation and evaluation of risk controls	b) Workbook response (below)
4.	Registration, licensing and certification	c) Workbook response (below)

ACTIVITIES

For the following activities, name a workplace that you wish to examine.

Name of workplace	
--------------------------	--

1.

Explain their duties, rights and obligations of PCBUs (and their officers) and workers regarding operation and maintenance of plant (including hazard management) as found in:

1. *Work Health and Safety Act 2011* (Qld)
2. *Work Health and Safety Regulations 2011* (Qld)
3. A code of practice relevant to your chosen workplace
4. An example of guidance material from the regulator (e.g. plant hazard checklists)
5. Organisational policies
6. Organisational procedures
7. Organisational processes
8. Organisational systems

1. <i>Work Health and Safety Act 2011</i> (Qld)	https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2011-018 Primary duty of care: (1) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of— (a) workers engaged, or caused to be engaged by the person; and (b) workers whose activities in carrying out work are influenced or directed by the person; while the workers are at work in the business or undertaking. (2) A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking. (3) Without limiting subsections (1) and (2), a person conducting a business or undertaking must ensure, so far as is reasonably practicable— (a) the provision and maintenance of a work environment without risks to health and safety; and (b) the provision and maintenance of safe plant and structures; and (c) the provision and maintenance of safe systems of work; and (d) the safe use, handling and storage of plant, structures and substances; and (e) the provision of adequate facilities for the welfare at work of workers in carrying out work for the business or undertaking, including ensuring access to those facilities; and (f) the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking; and (g) that the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking. (4) If— (a) a worker occupies accommodation that is owned by or under the management or control of the person conducting the business or undertaking; and
--	---

	(b) the occupancy is necessary for the purposes of the worker's engagement because other accommodation is not reasonably available; the person conducting the business or undertaking must, so far as is reasonably practicable, maintain the premises so that the worker occupying the premises is not exposed to risks to health and safety. (5) A self-employed person must ensure, so far as is reasonably practicable, his or her own health and safety while at work.
2. Work Health and Safety Regulations 2011 (Qld)	https://www.legislation.qld.gov.au/view/pdf/inforce/2017-07-01/sl-2011-0240 Duty to provide and maintain adequate and accessible facilities (1) A person conducting a business or undertaking at a workplace must ensure, so far as is reasonably practicable, the provision of adequate facilities for workers, including toilets, drinking water, washing facilities and eating facilities. Maximum penalty—60 penalty units. (2) The person conducting a business or undertaking at a workplace must ensure, so far as is reasonably practicable, that the facilities provided under subsection (1) are maintained so as to be— (a) in good working order; and (b) clean, safe and accessible. Maximum penalty—60 penalty units. (3) For this section, a person conducting a business or undertaking must have regard to all relevant matters including— (a) the nature of the work being carried out at the workplace; and (b) the nature of the hazards at the workplace; and (c) the size, location and nature of the workplace; and (d) the number and composition of the workers at the workplace.
3. Code of practice	https://www.legislation.qld.gov.au/view/pdf/published.exp/sl-2011-0010 FIRST AID IN THE WORKPLACE This Code provides information on using a risk management approach to tailor first aid that suits the circumstances of your workplace, while also providing guidance on the number of first aid kits, their contents and the number of trained first aiders that are appropriate for some types of workplaces. The risk management approach involves the following four steps (summarised in Appendix A): · identifying hazards that could result in work-related injury or illness · assessing the type, severity and likelihood of injuries and illness · providing the appropriate first aid equipment, facilities and training · reviewing your first aid requirements on a regular basis or as circumstances change.
4. Guidance material	According to the importing and supplying safe plant of guidance material, Importers and suppliers have a duty to ensure, so far as is reasonably practicable, the plant is imported or supplied without risks to the health and safety of people who: - assemble the plant - use the plant - store the plant - decommission, dismantle or dispose the plant, or

	- are exposed to the plant in a workplace or affected by its use. Importers and suppliers must, so far as is reasonably practicable, eliminate or minimise risks to health and safety regarding the plant being supplied, where the manufacturer has not already done so. This may be necessary where the importer has no direct connection to an overseas designer or manufacturer. To help importers and suppliers comply with their obligations they should confirm they are being provided with safe plant. Any imported plant must be inspected having regard to information provided by the manufacturer. If this information requires the plant to be tested, then the importer must undertake this testing
5. Organisational policies	TechnipFMC HSES policy stated the commitment of top management and objectives of overall operation including but not limited to the following: 1. Continuously eliminating or reducing risk of injury related to our activities through design, process improvement and technologies. 2. Complying with all legislative requirements, laws and regulations. When we deem necessary we will exceed those requirements to meet our internal values. Then, display the policy in banner, email to all workers, and include in the HSES induction for all new comers, contractor and client as well as display at all offices
6. Organisational procedures	TechnipFMC APAC has 39 HSES related procedures to ensure the operation is running safely. One of the procedures is confined space entry procedure. This procedure is highlighted the plant operation manager shall stop the job for safety if unsafe act and condition is observed. He is also responsible to participate HSE program such as HSE committee Meeting, HSE weekly meeting, and HSE campaign. In addition, He is accountable to ensure the operation engineer is following the HSE rules in the plant, and he must be led by example. He is also required to join the weekly walkabout for HSE and lead the HSE audit
7. Organisational processes	This Health, Safety & Environment Management Manual (HSEMM) provides the framework and strategy for the management of HSE within the Technip APAC region. It is designed to provide an overview of HSE systems and processes utilised across the region so as to promote a consistent and uniform approach.
8. Organisational systems	This HSEMM applies to all operations and supporting service functions of the TP APAC Operating Centers including remote offices, projects and project sites. It provides an overview for the HSE systems and process within each operating centre including: • The mechanisms in place to put the regions HSE policy into action; • How TP APAC consistently provides products and services that meet Customer requirements and applicable statutory and regulatory requirements; • Interaction of processes developed and applicable to the HSE and their application;

	• Resources and information necessary to support the execution and control of such processes; • Monitoring, measuring, analysis and continual improvement of the HSE and related processes; • The TP APAC HSE organisation and structure to achieve its objectives; and • References to policies, procedures, and processes to achieve the stated objectives
--	--

Outcome for Activity 1	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

2.

Identify two (2) plant-related hazards (one relating to pressurised fluid, one relating to moving machinery parts) that may occur in your workplace. For each hazard identified, find information to explain:

1. The nature and scope of the hazard, including the incidents/injuries it can cause
2. Determine the level of risk for the hazard within your workplace
3. Name and justify at least two (2) risk controls that may be implemented to address the hazard and risk assessment results
 - d) Explain which of these risk control options would be the most suitable, following the hierarchy of control
4. Who you would consult as part of hazard identification/risk assessment

Name hazard relating to pressurised fluid

Pressure hazard.

Nature and scope of hazard

Damage on the hose, Performing nitrogen purging, it can harm people as well as can damage equipment. Manufacture defect due to hose failure is at the end of fitting, it can be cause of Equipment Damage, explosion, harm to people (medical treatment injury)
- Due to heat generated of air flow of the compressor through the fittings. Temp reading ranged from 57Deg.Cel to 97Deg. Cel from 1hr of compressor running

Source of information (e.g. website address):

<https://synergi.apps.technip.com/default.aspx - 359724>

Determine the level of risk

Matrix	A: Death or permanent disability	B: Serious injury	C: Lost time injury	D: Casualty Treatment	E: First Aid
1: Very Likely	E	E	H	H	M
2: Likely	E	H	H	M	M
3: Possible	H	H	M	M	L
4: Unlikely	H	M	M	L	L
5: Very Unlikely	M	M	L	L	L

E: Extreme	H: High	M: Medium	L: Low
------------	---------	-----------	--------

Level of risk: B2:H

Risk controls

the risks of serious injury resulting from the uncontrolled release of high pressure hydraulic fluids is of ongoing concern. High pressure hydraulic fluid injection injuries also can be difficult to recognise, prompting the Inspectorate to again focus attention on this hazard. It should cover risk management of high pressure fluid within the safety and health management system, including emergency response and, Managing high pressure fluids and gases

- 1 Understand on product(equipment) & procedure details to identify the initial planning on operation.
- 2 Identified incident – human faults, equipment maintenance or natural faulty.
- 3 Ensure the condition of the equipment parts, air compressor is running at the right barg.

4 generated of air flow of the compressor through the fittings. Temp reading ranged from 57Deg.Cel to 97Deg. Cel from 1hr of compressor running.
 5. Conduct Risk Assessment
 6. Wearing required PPE
 7. Toolbox talk.

Source of information (e.g. website address):
<https://synergi.apps.technip.com/default.aspx> - 359724

Consulting others

To be captured in lesson learnt to utilized higher rate of hose temperature to prevent insulation damaged due to heat.

The risk assessment shall be consult with HSES personnel, the workers and supervisor who is directly doing the job, operation superintendent and engineer

Name hazard relating to moving machinery parts

Harm to people.

Nature and scope of hazard

Moving Object – Pipe fall off

Source of information (e.g. website address):
<https://synergi.apps.technip.com/default.aspx> - 359724

Determine the level of risk

Matrix	A: Death or permanent disability	B: Serious injury	C: Lost time injury	D: Casualty Treatment	E: First Aid
1: Very Likely	E	E	H	H	M
2: Likely	E	H	H	M	M
3: Possible	H	H	M	M	L
4: Unlikely	H	M	M	L	L
5: Very Unlikely	M	M	L	L	L

E: Extreme	H: High	M: Medium	L: Low
------------	---------	-----------	--------

Level of risk: E5 : L

Risk controls

Source of information (e.g. website address):
<https://synergi.apps.technip.com/default.aspx> - 359724

Consulting others

Immediately stop work activity and inform to person incharge, supervisor and safety officer duty.
 2. Immediately prepare notification and investigation area activity to get root cause issue.
 3. Ensure removing anchoring only at 3 spirals before finish
 2. Need ensure remove cargo strap at last spiral on foam box before finish
 3. Need briefing OPL for all crew activity

Outcome for Activity 2	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

3.

For the two (2) risks (and associated risk controls) identified in Activity 2:

1. Explain how you would contribute to implementing the risk control
2. Describe how you would evaluate the effectiveness of risk controls that had been implemented
 - e) Consider how you would monitor the risk controls
 - f) How often would you undertake a review of the risk controls?
3. Identify how organisational behaviour and culture may impact on the effectiveness of these controls.
 - g) Identify improvements that could be made to organisational policy, procedures, processes and systems to address these barriers.
 - h) Who would you report your findings and suggested improvements to?

Hazard/Risk 1**Implement risk control**

1. Conduct Risk Assessment
2. inspection
3. JSA
4. contractor checklists
5. toolbox talk and lesson learnt to be apply.

Evaluation of risk control

To evaluate the risk control, on site inspection need to be carry out. In proactive approaches of evaluation, work readiness review audit for all new activity or activity carry out at new working area to ensure HSE preparation is carried out well before the job is required. In addition, Hazard complaint by workers can be also collected to evaluate the effectiveness of the risk control

Addressing barriers

One of the barrier is local ethical of work and language used to create same understand of HSE practices. Therefore, campaign need to be carried out to improve the perception and HSE awareness.

Hazard/Risk 2**Implement risk control**

1. Notification to attendees shall be done in a timely manner to ensure a good preparation of the review and lessons learned from previous projects shall be collated.
2. Risk review meeting & Training
3. Evaluate of 'overall risk potential'
4. Provide sign, barricade at the distance sufficient to demarcate a safe zone to protect personnel and the public from unanticipated pressure release or equipment failure.
5. Toolbox talk
6. inspection

Evaluation of risk control

1. PTW to work and HSE personal has to be around when start work.
2. JSA must applied and signed as a PTW.
3. Supervisor should follow the right procedure of PTW.

Addressing barriers

Communication problem during the work activities, workers start work before apply proper JSA.

Outcome for Activity 3	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

4.

Consider the registration, licensing and certification issues associated with plant:

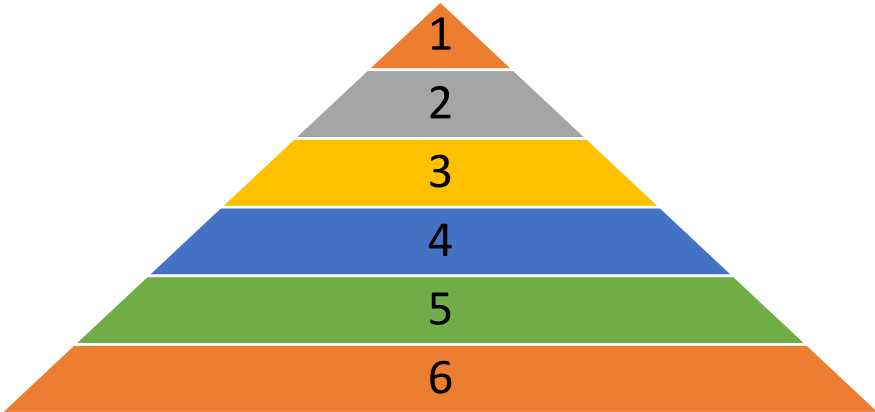
1. Identify two (2) types of plant requiring registration
 - i) How should registration compliance be monitored and documented?
 - j) Which individuals/parties need to be informed about this information?
2. Identify two (2) workplace tasks which require operator licensing and/or certification (e.g. high risk work)
 - k) How should licensing/certification compliance be monitored and documented?
 - l) Which individuals/parties need to be informed about this information?
3. Identify the training requirements necessary to meet registration, licensing and certification requirements (i.e. for new plant and/or new operating methods).
 - m) What methods would you use to determine training needs?
 - n) Which individuals/parties need to be involved in this process (i.e. involved in training, ensuring that training is undertaken and completed prior to commencement of work)?
 - o) How should training compliance be documented/recorded?

	Explanation
1.	Heat exchanger & Tower Crane In Western Australia the Occupational Safety and Health Regulations 1996 require that certain items of plant must be registered with WorkSafe. To register either an item of plant or design an application form must be completed and submitted to WorkSafe along with the correct fees. Regulation 4.15 of the Occupational Safety and Health Regulations 1996 specifies that an individual item of plant must be inspected by a competent person and declared safe for use before it can be registered. A competent person is defined in Regulation 1.3 as a person who has acquired through training, qualification or experience or a combination of those things, the necessary knowledge and skills required to do that thing competently.
2.	Scaffolding & Basic rigging WHS regulator need to be informed about the incensing/certification compliances. There are couple of things need to be recorded and monitored. To ensure all this compliance is well follow, a plant compliance list shall be established. This list will record all name of equipment, manufacturer details, purchasing details, serial number, model, location, maintenance schedule and registration, and operator requirement. Then a compliance checklist is also developed to ensure all the regulatory requirement is fulfilled. For example, notify the WHS authorities and registration requirement for specific items of the plant.
3.	To ensure the training needs is fulfil with the needs of the worker competency, a training needs analysis need to be carry out and it shall cover all the tradesman. Training is not a person matter, it has to be anticipated by respective workers and supervisor for respective subject of training. This training needs analysis shall be recorded down for future audit purpose. For example, if it is forklift operation training, then forklift operator shall attend the meeting but not rigger or fire watcher. They are not relevant to the job. The training need to record the attendance which signed by the workers it sells. Identified training plan and the management approval of the training plan shall be also kept well for record purpose.

Outcome for Activity 4	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

QUIZ

QUESTIONS	CORRECT
1. Which of the following may impact on WHS risk and the management of WHS? Select all that apply. ☒ Workplace culture towards WHS ☒ Language, literacy and numeracy levels of the workforce ☒ Training being too long and boring ☒ Consistency in the workplace (e.g. shift regularity)	☐
2. Which documents would reflect training requirements of plant operators? Select all that apply. ☒ Training Needs Analysis ☐ WHS regulator website ☒ Professional Development portfolio ☒ Logbook of operational experience	☐
3. A high pressure fluid injury could result from which of the following? Select all that apply. ☒ A leaking hydraulic hose or fitting ☒ A split in an air pipe ☒ A grease gun ☒ Opening a bottle of replacement brake fluid	☐
4. What should be considered when developing strategies for guarding moving parts in machinery? Select all that apply. ☒ Anticipated work practices (e.g. maintenance requirements, workers reaching into machines to free jams or to retrieve things) ☒ Implementing fences or guards that are kept in position while the machinery or plant is operated ☒ Training workers to change practices (e.g. use guards, change dangerous practices such as reaching across moving parts) ☒ Locating lubrication points away from moving parts, if possible ☒ Reported hazards and risk assessments regarding machinery in question	☐
5. According to the <i>Managing risks of plant in the workplace Code of Practice 2013</i>, when isolating an energy source so that multiple people can work on plant, which of the following is best practice? Select your response. ☒ A lock that allows one or more padlocks to be fitted (i.e. one for each person working on the plant) ☐ One padlock for all users ☐ One tag for all users ☐ Multiple tags for each user, no locks	☐

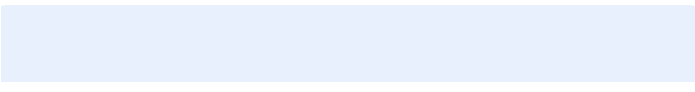
6. Which of the following tasks require a permit to work? Select all that apply. ☒ Removal of asbestos ☐ Concreting ☒ Confined space entry ☒ Excavation and demolition ☒ Isolation of energy, plant and equipment ☒ Working at heights	☐																				
7. Identify the elements of the hierarchy of control, using the labels 1 – 6 below.  <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">Label (1 – 6)</th> <th style="padding: 5px;">Element</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">Isolate the hazard</td> </tr> <tr> <td style="padding: 5px;">6</td> <td style="padding: 5px;">Provide and use Personal Protective Equipment (PPE)</td> </tr> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">Eliminate the hazard</td> </tr> <tr> <td style="padding: 5px;">3</td> <td style="padding: 5px;">Control the hazard by engineering means</td> </tr> <tr> <td style="padding: 5px;">5</td> <td style="padding: 5px;">Control the hazard by administrative means</td> </tr> <tr> <td style="padding: 5px;">2</td> <td style="padding: 5px;">Substitute the hazard</td> </tr> </tbody> </table>	Label (1 – 6)	Element	4	Isolate the hazard	6	Provide and use Personal Protective Equipment (PPE)	1	Eliminate the hazard	3	Control the hazard by engineering means	5	Control the hazard by administrative means	2	Substitute the hazard	☐						
Label (1 – 6)	Element																				
4	Isolate the hazard																				
6	Provide and use Personal Protective Equipment (PPE)																				
1	Eliminate the hazard																				
3	Control the hazard by engineering means																				
5	Control the hazard by administrative means																				
2	Substitute the hazard																				
8. Match the following terms and definitions by placing the corresponding term number next to each definition. <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="padding: 5px;">Label</th> <th style="padding: 5px;">Term</th> <th style="padding: 5px;">Label (1 – 5)</th> <th style="padding: 5px;">Definition</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">1</td> <td style="padding: 5px;">Causation</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">The action of stopping something from happening.</td> </tr> <tr> <td style="padding: 5px;">2</td> <td style="padding: 5px;">Hazard</td> <td style="padding: 5px;">5</td> <td style="padding: 5px;">That which is seen as the natural result of action/inaction.</td> </tr> <tr> <td style="padding: 5px;">3</td> <td style="padding: 5px;">Prevention</td> <td style="padding: 5px;">4</td> <td style="padding: 5px;">A measure of the possibility of harm, considering seriousness of injury and likelihood of occurrence.</td> </tr> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">Risk</td> <td style="padding: 5px;">2</td> <td style="padding: 5px;">Something which has the potential to harm people.</td> </tr> </tbody> </table>	Label	Term	Label (1 – 5)	Definition	1	Causation	3	The action of stopping something from happening.	2	Hazard	5	That which is seen as the natural result of action/inaction.	3	Prevention	4	A measure of the possibility of harm, considering seriousness of injury and likelihood of occurrence.	4	Risk	2	Something which has the potential to harm people.	☐
Label	Term	Label (1 – 5)	Definition																		
1	Causation	3	The action of stopping something from happening.																		
2	Hazard	5	That which is seen as the natural result of action/inaction.																		
3	Prevention	4	A measure of the possibility of harm, considering seriousness of injury and likelihood of occurrence.																		
4	Risk	2	Something which has the potential to harm people.																		

5	Foreseeability	1	The relationship between conduct and the resulting effect (e.g. injury)	
9.	According to the WHS regulator, which of the following activities require a licence? Select all that apply. ☒ Operating cranes and hoists ☒ Rigging and dogging ☒ Scaffolding ☐ Driving plant on the road			☐

Outcome for Quiz	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	

PRACTICAL TASK

You are required to have a suitable observer verify your ability to complete the following tasks. These tasks may be simulated or real.

TASKS		VERIFIED
1.	In a small group, show leadership while conducting a safety audit of plant used in high-risk work that requires a permit. p) Check fluid measurements and guards, as required q) Check logbook and maintenance records r) Observe isolation and tag out systems	☒
2.	In your small group, document potential hazards and their causes in a risk register, identifying: 1. Possible injuries/damage 2. Required control measures (referring to legislative and organisational requirements) 3. Risk assessment results	☒
4.	Collaborate with others to consider current organisational policies/procedures and offer recommendations for the following areas: 5. Hazard management 6. Monitoring and reporting compliance with regulatory requirements for registration, licensing and certification (including organising training)	☒
7.	Electronically and orally present findings to appropriate persons (e.g. PCBU, Trainer/Assessor). As part of the presentation: 8. Identify the duties, rights and obligations of individuals/parties based on findings of audit 9. Identify factors that will impact on WHS risk management 10. Explain how control measures will be implemented, monitored and reviewed for effectiveness	☒
Name of observer	Nyaim Thu Aung	
Role of observer (Confirm their suitability to sign)	☐ Trainer/Assessor ☒ Other (specify): Project HSES Manager	
Phone number of observer	+603 2116 6566	
Email address of observer	Nyaim.thuaung@technipfmc.com	
Signature of observer		
Date	Click here to enter a date.	
Comments		

Outcome for Practical Task	☐ Satisfactory ☐ Not satisfactory
Trainer/Assessor comments	