

BSBWHS409

Assist with workplace monitoring processes



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ASSESSMENT FOR BSBWHS409

Student name	Jacqueline Liew Mei Hui
Date of assessment submission	17/10/2016

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:
 - o **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)
 - o **Quiz:** You will be required to complete a series of questions to demonstrate your knowledge and skills.
 - o **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. Regulatory requirements and standards	• Workbook response (below)
2. Characteristics of agents and conditions	• Workbook response (below)
3. Communicating with others	• Workbook response (below)

ACTIVITIES

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

Name of workplace	
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ACTIVITY 1

Identify and describe the requirements of each of the following within your chosen organisation, with regards to workplace monitoring:

- a) Act
- b) Regulation
- c) Code of practice
- d) Standard

Name of Act
Work Health and Safety Act 2011 (Commonwealth) found at https://www.comlaw.gov.au/Details
Requirements
art 2 Division 2: Primary duty of care Section 19: (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.

Name of Regulation
Work Health and Safety Regulations 2011 found at https://www.comlaw.gov.au/Details/F2011L02664
Requirements
Under the regulation 49, it requires PCBU is to ensure nobody is exposure to substances or mixture that airborne concentration is exceeds the exposure limit of the substances or mixture. Moreover, regulation 50 requires PCBU to ensure atmospheric monitoring is carried out to determine the airborne concentration of the substances or mixture at the workplace and the record shall be kept for 30 years.

Name of Code of practice
Volume 3 Confined Space Code of practice found at https://www.comlaw.gov.au/Details/F2011L02804/Html/Volume_3
Requirements
The monitoring requirement are differing from each other code of practice, it is depending on what kind of activity to be carry out. in this section, confined space activity is used to outline the monitoring requirement as stated in code of practice. In the confined space code of practice, the monitoring is discussed in the section shown below. 1.3 What is required in managing risks? 1.4 How to determine whether a space is a confined space 2. Role of Designer, manufacturers and suppliers 2.1 Eliminating or minimising the need to enter a confined space 5.2 Eliminate the need to enter into a confined space 5.3 Minimise the risks 5.4 Entry permits 5.5 Isolation 5.6 Atmosphere 5.7 Communication and safety monitoring 5.8 Entry and exit procedures 5.9 Signs and barricades 5.10 Information, instruction and training 5.11 Maintenance of control measures

Name of Standard
Worksafe Australia National Standard Safe working in a confined space found at http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/ns1995safeworkinginconfinedspace
Requirements
Safe working in a confined space 6 definitions 7 design, manufacture, supply and modification 8 consultation

- 9 hazard identification
- 10 risk assessment
- 11 control measures
- 12 safety of the atmosphere
- 13 risk control
- 14 education and training
- 15 rescue and first aid
- 16 record keeping

Appendices

- a) List of referenced documents and related documents
- b) General design considerations
- c) Sample risk assessments
- d) Additional recommendations for the cleaning of confined spaces
- f) Additional recommendations for the conduct of hot
- g) Work in confined spacesf typical checklistg sample permit form for confined space entry
- h) Additional recommendations for atmospheric monitoring 40
- i) Additional recommendations for provision and use of personal protective and safety equipment

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

ACTIVITY 2

- a) Select one (1) chemical agent, one (1) physical agent and one (1) biological agent.
 - Identify a condition (i.e. symptom) that would be associated with each agent.
- b) Identify the characteristics of the chemical agent. You should refer to a Safety Data Sheet (SDS).
- c) Explain how you would determine the area where the measurements should be taken for the agent.
 - What information would workers (and other affected parties) be able to provide?
- d) Identify one (1) type of equipment that would be used to measure the agent.
 - Explain why you have selected this measuring equipment and its appropriateness for the environment, the activities being carried out and the level of risk.
 - Explain how you would calibrate, adjust and check the operability of the equipment selected. Does the equipment contain any in-built alarms?
 - Explain how the equipment is used. Be mindful of how health and safety are to be maintained and any limitations on the use and output of the equipment.
 - Identify the scale/units this equipment measures in and how results are recorded.
 - Explain how the equipment should be maintained and stored, including dismantling, cleaning and disposal requirements.
- e) Determine a sampling plan/process for monitoring the agent.
 - Determine when and how the sampling will take place.
 - Identify work permits and written authorities you would need to obtain when conducting the monitoring activities.
 - Determine who is responsible for the monitoring and how you would assist with conducting the tests.

Name of chemical agent

Kerosene

Condition of agent

Acute effects of exposure to man

Inhalation Vapours or mist may cause irritation of the nose and throat, headache, nausea, vomiting, dizziness, drowsiness, euphoria, loss of coordination, and disorientation. In poorly ventilated areas or confined spaces, unconsciousness and asphyxiation may result.

Skin contact Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling. Believed not to be a skin sensitizer.

Eye contact May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

Ingestion If more than several mouthfuls are swallowed, abdominal discomfort, nausea and diarrhoea may occur. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Name of physical agent

Noise

Condition of agent

The main characteristics of noise-induced hearing loss are:

- Noise-induced hearing loss is a cumulative process: both level of noise and exposure time over a worker's work history are important factors.
- At a given level, low-frequency noise (below 100 Hz) is less damaging compared to noise in the mid-frequencies (1000 - 3000 Hz).

- Noise-induced hearing loss occurs randomly in exposed persons.
- Some individuals are more susceptible to noise-induced hearing loss than others.
- In the initial stages, noise-induced hearing loss is most pronounced at 4000 Hz but it spreads over other frequencies as noise level and/or exposure time increases.

Name of biological agent

Mold

Condition of agent

Most molds are harmless but some can cause infections, allergy symptoms and produce toxins. Individuals with: a weakened immune system, allergies, asthma, sinusitis, or other lung diseases

Chemical agent**Characteristics**

Appearance: Bright and Clear liquid
 Odour: NIL
 Solubility: Insoluble in water
 Boiling Point: 215 ~ 300 degree
 Celsius Melting Point: NIL
 Vapour Pressure: Not determined Percent
 Volatiles: Not determined
 Evaporation Rate: Not determined Vapour
 Density: Not determined
 Specific Gravity: 0.775 (min.); 0.83 (max.)
 Flash Point: 42 degrees Celsius (IP 303)
 Auto ignition Temperature: 210 degrees Celsius
 Flammable limit (%) and: Upper Flammable Limit 5.0 % other properties if applicable
 Lower Flammable Limit 0.70 %
 Principal Hazards: WARNING: HARMFUL OR FATAL IF SWALLOWED PROLONGED OR REPEATED CONTACT WITH SKIN CAN BE HARMFUL. MAY CAUSE SKIN IRRITATION COMBUSTIBLE KEEP OUT OF REACH OF CHILDREN

Area for measurement

The measurement was taken placed in the chemical tank

Measuring equipment

Procedure: Samples are collected by drawing a known volume of air through glass sampling tubes containing coconut shell charcoal - Gas detector tube. Samples are extracted with 99:1 carbon disulphide (CS₂):N,N-dimethylformamide (DMF) and analysed by GC using a flame ionization detector (GC/FID).

Sampling plan/process

The sampling took place in the morning after toolbox talk. Work permit has been applied and approved. JSA was also produced to ensure a safe sampling method.
 Recommended sampling time and sampling rate: 200 min at 0.1 L/min (20 L) Reliable quantitation limit: 4.79 mg/m³
 Status of method: Partially validated method. This method has been subjected to the established evaluation procedures of the Method Development Team and is presented for information and trial use.

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

ACTIVITY 3

- a) Which individuals and parties might you consult when identifying agents and conditions in the workplace?
- b) Who might you consult with when collecting information and data about the requirements, nature and purpose of the monitoring?
- c) Describe a situation where you might need to seek expert advice, due to limits in your own expertise and/or available equipment.
- d) When interpreting and evaluating results you have collected, why should you compare them against a recognised standard?
 - Are there any limitations with exposure standards?
- e) Explain how you might assist with preparing reports on the monitoring process and ensure that regulatory requirements have been met.
 - What would be the purpose of the report?
 - Who would be included in the target audience?
 - How should the information be presented (e.g. to show trends)?
 - How soon should information be presented? Justify your response.
 - Explain how the results and records would be stored, allowing for easy retrieval.
 - Explain how you would consider others' privacy in the delivery and secure storage of the results.

	Response
a)	To identify agents and conditions in the workplace, we can consult occupational health and safety officer, workers and the supervisor who directly involving the activity. Occupational hygienist can be also consulted in identify the agent
b)	Occupational hygienist can be consulted in collecting information and data about the requirements nature and purpose of the monitoring. As they are the specialist in practice of anticipating and recognise the workplace health hazards that can cause disease or discomfort, evaluating the extent of the risks due to exposure to these hazardous agents and controlling risks to prevent ill health in the long or short term.
c)	Workers carry out welding, cutting and gouging and painting activity in the confined space. The activity will create a lot of hazardous fume which might engulf the area in the confined space although ventilation is provided. Workers have to work continuously 8-10 hours a day in the same area and 1 hour break in between the working hours for lunch.
d)	The result shall be compared with the recognised standard because it is to ensure the workers are adequately protected from the substances that may impair health or cause undue annoyance. The exposure standards represent airborne concentration of individual chemical substances which according to current knowledge should neither impair the health or nor cause undue discomfort to nearly all workers. However, the recognised standard do not represent the fine line between what is safe and what is dangerous to health because - They change as new information becomes available about the toxicity of chemical - Individual vary in response to chemical exposure - They do not account for absorption of chemical by routes other than inhalation - They do not account for exposure to mixture of chemicals that may have synergistic effects in the body and they often based on the result of experimental on animals, requiring extrapolation to humans or epidemiological studies requiring some reliance upon historical data. Therefore, the exposure shall be maintained as far below as the exposure standard as possible. Most of the exposure standards are based on a 40-hour week but workers frequently work 12 hours shifts, therefore, we need to calculate revised exposure standards in these situations.

- e) In preparing reports, it is important to ensure the report must be able to read, understand, avoid jargon and assumptions about the readership. It is also important the report to include recommendation for improvement. Always double check that the reference material is current and relevant to the state and the location that have been monitored, Include photographic as evidence to support the findings and be sure to photograph all stages of the monitoring using camera which atomically date stamps each photo.
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- The results and record shall be kept in both electronic and in hard copy. It would be logical for the data to be stored on the personal medical files, which would be allow for easy exposure profiling. However, the confidentiality around medical records usually prevents this from occurring as safety professionals would not normally have unrestricted access to medical records. It is therefore usually necessary to have 2 separate systems. We need a procedure when dealing with workers and their personal samples, or their results for confidentiality and security. The information and record can be retained and for privacy purpose via filling in a form and obtain approval head of department before accessing the personal data, records and results.

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

QUIZ

QUESTIONS				CORRECT																																								
1. Match the following agents and conditions by placing the corresponding agent number next to each condition. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr style="background-color: #d3d3d3;"> <th style="width: 10%;">Label</th> <th style="width: 40%;">Agent</th> <th style="width: 10%;">Label (1 – 9)</th> <th style="width: 40%;">Condition</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Biological agents</td> <td style="text-align: center;">7</td> <td>May result in hearing damage. Measured in dB(A).</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Electricity</td> <td style="text-align: center;">3</td> <td>One example is asbestosis.</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Fibres, dusts and particulates</td> <td style="text-align: center;">1</td> <td>Includes insects and bacteria. May result in bacterial infection.</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Fumes, mists, gases and vapours</td> <td style="text-align: center;">5</td> <td>May result in rashes and cramps. Meters measure in °C and %, respectively.</td> </tr> <tr> <td style="text-align: center;">5</td> <td>Heat and humidity</td> <td style="text-align: center;">9</td> <td>May result in cancer. Measured in becquerel (Bq).</td> </tr> <tr> <td style="text-align: center;">6</td> <td>Light</td> <td style="text-align: center;">6</td> <td>May result in sprains and strains. Velocity can be measured in mm/s. Frequency can be measured in Hz.</td> </tr> <tr> <td style="text-align: center;">7</td> <td>Noise</td> <td style="text-align: center;">2</td> <td>May result in burns and shock. Measured in volts.</td> </tr> <tr> <td style="text-align: center;">8</td> <td>Radiation, including ionising, non-ionising and laser</td> <td style="text-align: center;">4</td> <td>May result in respiratory problems. Can be measured using a monitor which measures in ppm (parts per million).</td> </tr> <tr> <td style="text-align: center;">9</td> <td>Vibration</td> <td style="text-align: center;">8</td> <td>May result in UV burns to skin or eye damage.</td> </tr> </tbody> </table>				Label	Agent	Label (1 – 9)	Condition	1	Biological agents	7	May result in hearing damage. Measured in dB(A).	2	Electricity	3	One example is asbestosis.	3	Fibres, dusts and particulates	1	Includes insects and bacteria. May result in bacterial infection.	4	Fumes, mists, gases and vapours	5	May result in rashes and cramps. Meters measure in °C and %, respectively.	5	Heat and humidity	9	May result in cancer. Measured in becquerel (Bq).	6	Light	6	May result in sprains and strains. Velocity can be measured in mm/s. Frequency can be measured in Hz.	7	Noise	2	May result in burns and shock. Measured in volts.	8	Radiation, including ionising, non-ionising and laser	4	May result in respiratory problems. Can be measured using a monitor which measures in ppm (parts per million).	9	Vibration	8	May result in UV burns to skin or eye damage.	<input style="width: 30px; height: 30px;" type="checkbox"/>
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2. When determining the area where measurements are to be taken, which of the following should be taken into consideration? Select all that apply. ☒ Movements of people ☒ Tasks or activities occurring the in the workplace ☐ When work is undertaken and when lunch time is ☒ Whether the equipment emits something (e.g. light and sound)				<input style="width: 30px; height: 30px;" type="checkbox"/>																																								
3. In which circumstances may you be required to consult with another party during the monitoring process? Select all that apply. ☒ When determining the agent and/or condition to be monitored ☐ For advice on which equipment to select ☒ When recording readings ☐ To determine the nature of the problem				<input style="width: 30px; height: 30px;" type="checkbox"/>																																								

4. Which of the following information and data must be presented to relevant parties? Select all that apply. ☒ Interpretation of results ☒ The process undertaken ☒ Information about equipment that was not used ☒ Effects for workers and the workplace	☐
5. If it is discovered during the monitoring process that a worker is exposed to serious risk due to an uncontrolled leakage of a substance, the PCBU can choose to control the leakage, rather than notifying the WHS regulator. ☐ True ☒ False	☐

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
A. Consult with others to form sampling process/plan. Identify: - Agent to be measured - Characteristics of agent - Measurement equipment to be used - The area where measurements are to be taken - Factors that may impact on sampling (e.g. movements of people and equipment, tasks or activities being undertaken, number of persons occupying the area).	☒
B. Work with others to assist with monitoring process: - Calibrate monitoring equipment and select appropriate scale - Safely use equipment to collect information/data and record readings - Dismantle, clean and store equipment and parts.	☒
C. Prepare an electronic written report on the monitoring process: - Present information and data clearly and logically - Interpret and evaluate results against a recognised standard - Use appropriate units of measurement, logarithmic scales, decimals and order of magnitude.	☒
Name of observer	Nhakhorn Somchit
Role of observer (Confirm their suitability to sign)	☐ Trainer/Assessor ☒ Other (specify): Project HSE Manager
Phone number of observer	+603 21186298
Email address of observer	nsomchit@technip.com
Signature of observer	
Date	19/10/2016
Comments	

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