



## OPEN CUT MANAGER CERTIFICATE OF COMPETENCE | AUGUST 2014

### Examination for Certificate of Competence for Open Cut Manager

#### OCM1 Legislation paper

Examination Date: 14 August 2014

Examination Times: 9.30am to 10.30am

Examination Venue: Hunter Valley Mines Rescue Station, Singleton.

Instructions to candidates: All questions are to be attempted. Answers are to be written in this booklet ONLY. You may use the blank pages for additional space if required. Refer to the relevant legislative provisions when answering all questions.

#### Question 1 (Total 20 Marks)

What does the law require about exposure of workers to Noisenoise?

#### Question 2 (Total 20 Marks)

Whilst doing earth works on a "Green-green Fieldfield" site, you come across a derelict shed which appears to have asbestos sheeting in it. What are you required to do before removing the asbestos?

#### Question 3 (Total 20 Marks)

A serious incident occurred at your mine involving a dozer and a light vehicle which could have resulted in a fatality. What does the law require you to do after you complete your investigation?

#### Question 4 (Total 20 Marks)

You are the manager of a mine where a light vehicle runs away on an area where an overburden drill is working. What are you required to do?

#### Question 5 (Total 20 Marks)

You require certain people on your mine site to exercise certain functions. What does the law require you to do?

**END OF QUESTIONS**

**END OF PAPER**



## OCM2 Open Cut Mining Practice paper

Examination Date: 14 August 2014

Examination Times: 11.30am to 2.30pm

Examination Venue: Hunter Valley Mines Rescue Station, Singleton.

Instructions to candidates: Only five (5) of the eight (8) questions are to be attempted. Questions 1 and 2 are compulsory. All questions are of equal value; however parts of a question may vary. Answers are to be written in this booklet ONLY. You may use the blank pages for additional space if required. Drawing tools may be used for sketches. Non-programmable calculators may be used.

### Question 1

You are the Manager of Mining Engineering (MME) of a small open cut coal mine which is scaling down as it comes towards the end of its mine life. A restructure has resulted in the Coal Preparation Plant (CHPP) operations being included as an area of your responsibility. The CHPP product stockpile uses a valve draw down system into a reclaim tunnel beneath which is fed by a D11 stockpile dozer.

Due to logistical reasons there has been limited trains scheduled which has resulted in reduced offtakes to the product stockpile. As a consequence, product stockpiles are high with some areas showing signs of spontaneous combustion.

In the early hours of the morning you receive a call from the CHPP supervisor reporting that during reclaiming and train loading operations, the stockpile dozer operator has observed a large amount of smoke coming from the reclaim tunnel and the reclaim conveyor has tripped. The supervisor has instructed the stockpile dozer to move to a safe location but is seeking further instructions.

- What are your actions upon receiving this call to bring the situation under control? (10 marks)
- What is a Stockpile and Reclaim Tunnel Management Plan (SRTMP) and what is its purpose? (5 marks)
- What are the main drivers for the requirement of a SRTMP? (5 marks)
- Detail the process steps you would use to develop and implement a SRTMP? (15 marks)
- List the contents of a SRTMP including the key hazards and controls required to manage those hazards. (25 marks)

### Question 2

You are a Manager of Mining Engineering (MME) for a large multinational company, Ajax Mining. Your General Manager has requested you manage a major change for a recently acquired open cut mine which is currently operated by a mining contractor using their own ageing fleet of large hydraulic excavators, mechanical drive trucks and ancillary equipment. The changes involve;

- Transitioning from a contractor to owner/operator (Ajax Mining) operation
- Increasing production from 7Mtpa ROM to 10Mtpa within the current consent limit
- Replacing the aging contractor owned fleet
- Changing from a 6 day/10 ½ hour shift/3 panel rotating roster to a 7 day/12 hour shift/4 panel roster

You are required to project manage this change prior to assuming the future role as the MME for this operation. Describe in detail all aspects of how you would manage the project to ensure safety, E&C, cost & efficiency and legislative considerations are met to achieve the required outcomes. State all assumptions. (60 marks)

### Question 3

As Manager of Mining Engineering (MME) of a large open cut operation you have been alerted to the frequency of incidents and near hits involving vehicle interactions. The most recent incident occurred at the start of the previous night shift where a fitters ute being driven by a 3rd year apprentice drove through a stop sign at a T intersection resulting in a passing 240t rear dump truck needing to take evasive action to avoid a collision and potential fatality. Of further concern is the fact that the incident was only reported in passing by the contractor truck driver to the oncoming day shift OCE at the end of shift.

- Detail the steps you would take to effectively manage this latest incident. (15 marks)

- b) Detail the process you will use to address the alarming frequency of vehicle-related incidents at your site and the measures you intend to take to reduce the risk to an acceptable level. (30 marks)
- c) What steps would you take to achieve an effective and sustainable implementation of the measures taken to achieve a desired outcome? (15 marks)

#### Question 4

You have been appointed as Manager of Mining Engineering (MME) of a recently approved green field open cut mining operation located in an area that has not been exposed to mining impacts in the past. The mine is surrounded by numerous rural properties, many of which are still owned and occupied by residents which opposed the development. The proposed disturbance boundary is approximately 1km away from a rural road and a river which is used for irrigation by local farms in the area.

The mine intends to operate on a rotating 4 panel, 7 day roster. Mining equipment will include; an electric rope shovel, hydraulic excavators, large mechanical rear dump trucks and various pieces of ancillary equipment. The mine will employ approximately 500 employees at steady state production levels.

- a) Outline the documents that exist for the management of environmental and community impacts relating to your mine and their purpose and significance. (20 marks)
- b) Describe in detail the top 5 hazards that your operation imposes on the environment and community and the control measures required to effectively manage these hazards to an acceptable level. (25 marks)
- c) What communication and training initiatives would you adopt with all relevant stake holders to support the measures taken to minimise the environmental and community impacts? (15 marks)

#### Question 5

The mine at which you are the Manager Mining Engineering has recently been given approval for an expansion to the current mine disturbance boundary and the pit has advanced into the new mining area.

An overburden blast pattern in this area is being loaded by the blast crew on the weekend to assist in building low blast inventories. During the loading of this shot a shot firer has reported to the shift OCE that smoke was observed coming from some spilled ANFO on the ground near a previously loaded hole. The shot has been 80% loaded and stemmed. The remaining holes are primed but no product loaded.

- a) The shift OCE who has not experienced an incident of this nature previously, has called you to report the incident and is seeking your instructions on what to do. What immediate actions would you take to address this situation to make the area safe? (15 marks)
- b) In relation to elevated temperature and reactive ground, define the following terms;
  - i. Elevated temperature
  - ii. Reactive ground
  - iii. Reactivity. (10 marks)
- c) List the hazards associated with elevated temperature and reactive ground and the controls required to manage those hazards. (20 marks)
- d) Detail the process you would use to develop and implement an ~~Elevated-elevated Temperature~~ temperature and Reactive Ground Management Plan for this new hazard? (15 marks)

#### Question 6

You are the Manager of Mining Engineering (MME) of a medium sized mine in the Hunter Valley running hydraulic shovels and a fleet of Cat 793 trucks. Due to recent ownership changes the General Manager has requested you to align the site traffic arrangements with other operations in the group. Currently your site's well established traffic arrangements operate under NSW road rules while the other operations operate with a "hierarchy" system.

- a) Detail the process and steps you would take to change to the hierarchy system. (20 marks)
- b) What would be the major challenges involved with this change and how would you address them? (15 marks)
- c) What other systems, processes or components of your site Health & Safety management System (H&SMS) may be required to be reviewed as a consequence of this change? (15 marks)
- d) What are your legal obligations in relation to this change and any actions required? (10 marks)

## Question 7

You are the Open Cut Manager (OCM) for an existing open cut deposit. Your geotechnical engineers have informed you that there is a stability issue potentially leading to imminent failure beneath your rail loop infrastructure. The remedy will require 4 months to repair and in that time no trains will be able to use the loop. The rail loop is the only rail corridor where product coal is railed off site to the port.

In discussions with your general manager, you ascertain that it is possible for you to truck coal by road to a nearby sister mine, and use their train load out station.

- List the process you would undertake to commence this alternative road truck operation through to commissioning (20 marks)
- Identify the key stakeholders for this change and reasons for their significance (15marks)
- List all of the hazards associated with this change and controls required to manage those hazards (25marks)

## Question 8

You are the Manager of Mining Engineering (MME) for a small open cut coal mine. At 2am you receive a call directly from the OCE that a truck has crashed on a downhill haul and run into the highwall at the switchback point on the ramp. He is a relatively new OCE and has phoned you immediately after he was made aware of the incident. He has only initiated the emergency call over the two-way just before contacting you. He sounded very distressed and unsure of himself on the phone.

The truck fleet is relatively new, averaging approximately 1,200 SMU hours per truck.

- What are your immediate actions to control the situation? (20marks)
- After the situation is controlled, and the operator is confirmed safe, you are informed that there is an alternate dump that the trucks can use which avoids interaction with the incident scene. What are your actions and justification for those actions? (20marks)
- What are the possible contributing factors to this sort of incident and what controls could be put in place to minimise the risk of re-occurrence? (20marks)

**END OF QUESTIONS**

**END OF PAPER**

## More information

Business Processes & Authorisations

Phone: 4931 6625

## Acknowledgments

Open Cut Manager Examination Panel

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