

OPEN CUT EXAMINER CERTIFICATE OF COMPETENCE | JULY 2015

Written examination

OCE1 - Mining Legislation

Examination date: 17 July 2015

Examination time: 09:30am – 10:30am

Examination venue: Hunter TAFE, Kurri Kurri

Instructions to candidates: All five (5) questions are to be attempted. All questions are of equal value – 20 marks each. Refer to the relevant legislative provisions when answering all questions. 10 minutes reading time is allowed prior to the start of the examination.

Question 1 (20 marks)

Which of the following incidents are notifiable and explain your reason for your answer?

- A rear dump truck loses control down a ramp for a short time but does not hit the windrow or travel on the opposite side of the road (5 Marks)
- A fume event occurs as a result of shotfiring (5 Marks)
- An old water tank which is no longer used falls over (5 Marks)
- A parked up light vehicle rolls 5 metres forward near crib room (5 Marks)

Question 2 (20 marks)

- How is Risk Controlled on a mine site? (10 Marks)
- What is required to be done to use contractors at a mine (10 Marks)

Question 3 (20 marks)

- What does principal control plan mean? (5 Marks)
- What are the requirements relating to principal control plans and the names of each control plan? (15 Marks)

Question 4 (20 marks)

- The Work Health & Safety (Mines) Regulation requires consultation with workers, when is this required? (10 Marks)
- Who has the functions of a Health and safety Representative at a mine site? (10 Marks)

Question 5 (20 marks)

- What does the Work Health & Safety (Mines) Regulation require about the use of Mobile Plant? (15 Marks)
- List the maintenance related roles that are required at an open cut mine that hold a statutory position? (5 marks)

END OF PAPER

OCE2 – Practical Open Cut Operations

Examination date: 17 July 2015
Examination time: 11:30am – 1:30pm
Examination venue: Hunter TAFE, Kurri Kurri

Instructions to candidates: Only four (4) of the six (6) questions are to be attempted. Questions 4 & 5 are compulsory. All questions are of equal value however, parts of a question may vary. Drawing tools may be used for sketches. Non-programmable calculators may be used. 10 minutes reading time is allowed prior to the start of the examination.

Question 1 (50 marks)

Tyre & Rim Hazard Management

In a simple table, list the hazards associated with heavy earthmoving equipment tyres used in open cut coal mining operations and all of the controls available to manage those hazards. (30 marks)

Outline the components and summarise the content of a typical Tyre Fire and Vehicle Electrocutation procedure. (20 marks)

Include sketches or diagrams where relevant

Question 2 (50 marks)

Explosives and Shot Firing

An overburden blast in fractured, hard sandstone was fired and one echelon failed to initiate. The blast utilised Nonel I.E with 350ms down-hole delays, 42ms (control row) & 109ms (echelon) delays used on the surface.

- List the possible causes of the misfire. (10 marks)
- What changes could be implemented to prevent this misfire? (10 marks)
- Outline the process to rectify the misfired holes. (10 marks)
- Is this incident notifiable? If so, specify the clause description and notification requirements. (5 marks)
- What recommended changes or improvements to the blast design could be implemented to avoid re-occurrence of this incident? (15 marks)

Question 3 (50 marks)

Incident management

You are the Open Cut Examiner at a mine which uses excavators and front end loaders to load overburden, coal and partings. The mine has a clean coal stockpile and reclaim tunnel used for train loading which is included in the Open Cut Examiner's district.

During your night shift you receive an emergency call from the bulldozer operator who was pushing product coal into a valve of the reclaim tunnel during train loading operations. He states the bulldozer has caught fire around the engine area and the fire suppression system has not put the fire out. The product stockpile he is working on is approximately 10 metres high.

- What would be your initial actions to manage this emergency? (20 marks)
- Once the fire is under control, explain how you would recover the bulldozer from the stockpile. Include in your answer all hazards identified and controls required to enable a safe recovery. (30 marks)

State all assumptions and include sketches where necessary

Question 4 (50 marks)

Environment & Community Impacts (Compulsory)

You are a newly appointed OCE at a large open cut mine which uses equipment including a large dragline, electric rope shovels, large excavators, FEL's, 40 electric and mechanical drive dump trucks and associated ancillary equipment. The mine is in close proximity to a number of nearby residents who have lodged in excess of 700 community complaints in the past year to the mine's community hot line.

In addition to its usual mining activities the mine also plans to cap a large tailings dam which has reached capacity at the North Western end of the disturbance boundary which overlooks three local residences all within 2km of the tailings dam.

1. List five impacts this large operation has on the environment and community (5 marks)
2. What is meant by "hierarchy of controls"? (5 marks)
3. Outline all of the controls required manage the top 2 impacts identified. Indicate where each control sits in the hierarchy of controls (25 marks)
4. What would you consider to be the key areas of impact that the proposed tailings dam capping project may have on the three nearby residents and what controls or mitigation measures do you recommend to minimise the impacts and risk of community complaints? (15 marks)

Question 5 (50 marks)

Equipment Management (Compulsory)

You are the OCE of an open cut mine that utilises a fleet of 20 x 240T mechanical drive trucks to haul coal and waste.

During night shift on a long weekend when the Statutory Mechanical Engineer and other senior management are un-contactable, you receive a two-way call from a maintenance fitter informing you that one of the trucks appears to have excessive movement in the chassis. The truck is fully loaded and parked on a 10% ramp.

- a) Describe your immediate response upon receiving the call. (10 marks)
- b) Outline the process to recover the truck and relocate it to the workshop. (10 marks)
- c) Assuming it is not wheel related, what other possible causes could result in this excessive movement? (15 marks)
- d) What controls, particularly relating to truck design and operating methods, could mitigate this issue? (10 marks)
- e) Is this matter notifiable? If so, specify the clause description and notification requirements. (5 marks)

Question 6 (50 marks)

Contractor Management

Your site engages a contractor to clear, fell and mulch large quantities of trees prior to commencing pre-strip operations. Senior management have awarded the contract and you have been given the task of introducing them onto site. You will also be supervising their work whilst they are on site. The contract will involve equipment comprised of a clearing dozer, small excavator with grab attachment, articulated dump truck, an industrial forestry mulcher operated by four contractor employees.

- a) Describe the hazards associated with the clear, fell and mulching operations and controls required to manage those hazards. (20 marks)
- b) What are the statutory and site specific requirements to be put in place prior to the contractor commencing work? (10 marks)
- c) During clearing operations the contractor excavator operator notifies you of repairs required to the cracked track frame of his excavator. Detail what is required to be put in place to ensure a sub-contractor maintenance fitter conducts the repair safely and in compliance with all requirements? (20 marks)

END OF PAPER

END OF EXAMINATION

More information

Business Processes and Authorisations Unit – 02 4931 6625

Acknowledgments

Open cut examination panel

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