

## Deputy of underground coal mines

September - November 2018

### Written examination

### DEP1 coal mining practice and legislation

#### Summary of results and general comments

Exam date	7 September 2018
Number of candidates:	37
Number who passed:	31
Highest mark:	91%
Average mark:	68%
Lowest mark:	33%

#### Question 1 (total 20 marks)

Highest mark:	20
Average mark:	13.97
Lowest mark:	9

#### Examiner's comments

- A deputy must know what is expected when dealing with any notifiable incident.
- The scene is to be preserved. This includes the ventilation as at the time.
- There has been a failure of a management plan.
- An investigation and corrective actions are required before work/production can recommence.

#### Question 2 (total 20 marks)

Highest mark:	20
Average mark:	13.7
Lowest mark:	5

#### Examiner's comments

- The panel acknowledges the plan could have been located on page 3 to provide more space for the candidate to write their response. The examiners took this into account when marking answers.
- The hazardous zone includes the return/returns.
- A deputy must understand the advantages and disadvantages of dual returns compared to flanking returns.

- Dual returns have: less stoppings, less overcasts, less leakage – more suited to a spon com mine.
- Flanking returns have: a separate return for each auxiliary fan, the gas from the solid ribs doesn't enter the panel, each auxiliary fan vent tube lines are kept to a minimum – more suited to a gassy mine.
- Ventilation – What goes in, must come out. Allow for leaks and any gas.
- The belt road has a restriction to the ventilation.

### Question 3 (total 20 marks)

Highest mark	20
Average mark:	15.68
Lowest mark:	3

#### Examiner's comments

A deputy must know what is a notifiable incident. Some candidates mixed up dangerous incidents, clause 179 (where the scene must be preserved) and duty to notify regulator of certain incidents, clause 128 (where the scene doesn't need to be preserved).

### Question 4 (total 20 marks)

Highest mark:	20
Average mark:	11.86
Lowest mark:	2

#### Examiner's comments

- This would have been risk assessed.
- A procedure would be in place.
- The ventilation officer would complete the ventilation change.
- The deputy would make sure their crew is aware of the ventilation change.
- The deputy would do ventilation readings and check for gas levels.
- A deputy must understand ventilation pressure.
- The tailgate wing should be built to a standard/procedure.
- The deputy will have actions associated with the wing. Eg. when to trim/cut the brattice and the minimum length of the wing. This is designed to keep the tailgate area free of gas. Not to keep gas away from the tailgate sensor.

### Question 5 (total 20 marks)

Highest mark:	17
Average mark:	12.32
Lowest mark:	3

#### Examiner's comments

**Hazards:**

- Workers interacting with machinery – no go zones, flashing lights on machinery, clear communication, flitting procedures, audible alarms on machinery, lighting on machinery, machinery operator checks/ inspections.
- Workers entering unsupported roof – maximum number of unsupported plunges, clearly marked/cross stucked unsupported plunges.
- Airborne dust – Correct ventilation arrangements, good standards of brattice stoppings, double roller doors on travel road (unless gassy don't have flanking returns) CM scrubber maintenance, watering / salting roads, clean roads.
- Cable damage – A cable management plan, clean roads, ensure cables are not tangled, machinery operator checks/inspections, flitting procedures, clear communication when flitting.
- Strata failure – maximum length of plunges, TARP for reducing length of plunges, maximum number of unsupported plunges, procedure for recovery of buried machinery. Strata support plans and TARP.
- Gas – good ventilation standards, maximum number of unsupported plunges, procedure for recovery of buried plant, gas monitors on continuous miner and bolter correctly positioned, continuous miner digital display that can be clearly seen from under supported roof.

## Oral examination

Date: 14 November 2018

Number of candidates: 42

Number deemed competent:19

### General comments

- There will always be a ventilation question/degassing with either brattice or auxiliary fan. A deputy must know how to degas a panel. Do not ever walk into CH<sub>4</sub> above 2%. Understand what makes air move. What is weekend ventilation? Breaking vent tubes is a very hard task when you are by yourself and should only be done as a last resort.
- If using an auxiliary fan use another person with clear communication to adjust the fan while you monitor the gas levels. Use the butterfly valve in the vent tube line to degas 1 x heading at a time.
- If using brattice due to a restriction at the face, work out how you are going to regulate and monitor this air while still standing in fresh air.
- A deputy needs to know the purging procedure. There must be an incident form completed with corrective actions to prevent a reoccurrence. This is a clause 128 (b) Notifiable – Greater than 2% CH<sub>4</sub>.
- A deputy needs to understand methane layering, where to find it and how to remove it.
- There will always be an emergency question. This means there has been a failure of a management plan.
- Candidates were slow to call an emergency. Take control of the situation. Find out as much as you can. delegate.
- Contractors are part of your crew. All mines do mock emergencies and have training days, but how often are contractors involved in this training? Yet so many deputies want to leave contractors behind stating "they have been trained in the mine's emergency procedures and have walked the second egress". If you are so confident that the contractors have left the panel, are there any CABA suits missing and did they ring control to notify their route of travel? Stating that they have their own gas detector is flawed. If the

contractors are building a seal 1 pillar inbye of the longwall maingate with minimum ventilation flow and there is a fire in the belt road and the deputy is getting 30ppm CO on the longwall face, how much CO would be registering on the contractors' gas detector?

- What are the mine's rules on donning a self-rescuer?
- Consider getting all your crew with extra CABA suits in the transport, reversing it back inbye to get the contractors. Your crew stays together, you don't have to turn the transport around, it has a reversing alarm and lights, all your crew have lights. It is no more than 150m and you have CABA on.
- Always use evacuation terms - primary egress and secondary egress.
- Fighting a fire – At every substation, diesel bay, TX and other locations underground, there is a sign that states "In the case of discovering a fire" – by 1 x person, 2 x people or more than 2 people.....
- Assess the fire, delegate, notify control and call an emergency, attempt to fight the fire, always from the intake side (fresh air), call for assistance. Know where firefighting gear and what type is located.
- Send 2 x people to the phone (if enough available), the second as a runner for updating information.
- Set up fire watch, call for replacement firefighting gear, preserve the scene clause 179 (a) (ii), complete an incident report and do a debrief with your crew, organise counselling for your crew and yourself.
- It is 100 metres and you have CABA on, fill out statutory report books so you are aware of what information is required.
- Know where stone dust barriers are required and what the difference is between a concentrated and distributed barrier is. What inspections are required.
- What is a deputy's role? - WHS(M&PS) Regs 2014 – Schedule 10 (10) – Deputy
- Examiners are not trying to trick you – you must demonstrate that you are confident and competent to be a deputy anywhere in NSW, not just at your mine.

## More information

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## Acknowledgments

### Deputy examination panel

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