

MACHINE OPERATOR STUDY GUIDE

MACHINE OPERATOR REQUIRED QUESTIONS

1. *How often should the machine operator test for gas?*
 - a) At least every 20 minutes.
2. *How close to the face can a machine be moved before you test for gas?*
 - a) Last open cross cut.
3. *Where is methane normally found?*
 - a) Near the roof because it is lighter than air.
4. *How many splices are permitted in a trailing cable?*
 - a) Five (5) are permitted. After the fifth splice is made the cable will be changed before the next shift.
5. *How do you test the roof?*
 - a) Sight, sound, and vibration.
6. *Where do you test for gas?*
 - a) Not less than one (1) foot from the roof, face, and rib of the working place.
7. *If gas is found in the working place, what should you do?*
 - a) De-energize the equipment and notify the foreman.
8. *How often are you required to examine the trailing cable?*
 - a) The machine operator shall examine the exposed portion of the trailing cable for his machine at the beginning of each shift for abrasions and other defects. The remainder of the trailing cable shall be examined within the first hour upon arrival of the producing shift in the working section.

GENERAL QUESTIONS

1. *If you found explosive gas of 1% or greater in a working place in which the machine was operating, when would you again operate that machine?*
 - a) After gas had been diluted below 1% and the place had been re-examined by the foreman.

2. *What is the first thing you would do upon coming into a working place?*
 - a) Evaluate the conditions of the place and check for the foreman's date and initials.

3. *Is anyone permitted in by the last row of roof supports?*
 - a) No, all workers must be out by the last row of roof supports unless installing roof supports.

4. *If arcing is noticed between machines, what would you do?*
 - a) Disconnect both machines from their power sources and report it to a mine official.

5. *Are you permitted to leave a mining machine while it is energized?*
 - a) The individual in charge of mobile electrical equipment shall before leaving the work area, see that power is cut off the trailing cables.

6. *What is the most common dangerous gas encountered in bituminous coal mines?*
 - a) Methane.

7. *What is the explosive range of methane?*
 - a) Five (5%) to fifteen (15%) - {10% being the most explosive.}

8. *Is methane heavier or lighter than air?*
 - a) Lighter.

9. *Is methane poisonous?*
 - a) No.

10. *What is the ignition temperature of methane?*
- a) Eleven hundred degrees to thirteen hundred eighty degrees Fahrenheit (1100 to 1380)
11. *When testing for O₂ deficiency, where do you place your detector?*
- a) Near the bottom, low areas.
12. *Is coal dust suspended in air explosive?*
- a) Yes.
13. *Is it your duty to determine the safety of the roof and sides of working places in which you cut? Explain why or why not.*
- a) Yes. Roof and rib conditions should be checked frequently – before, during and after cutting.
14. *What would you do if you found defects in a machine cable?*
- a) De-energize power to machine and notify foreman in charge.
15. *When are you required to wear respiratory equipment?*
- a) Workman exposed to dust, fumes and mist inhalation hazards for short time periods shall wear approved respiratory equipment.
16. *As a machine operator, when are you required to report defects in your machine and to whom?*
- a) Promptly to your foreman in charge.
17. *What shall be done to the cutting devices of mining machines when they are parked or being trammed?*
- a) They shall be locked securely by mechanical means or electrical interlocks.
18. *What is the minimum quantity of air required in the last open cross cut?*
- a) The quantity of air reaching the last open crosscut in any pair or set of entries shall not be less than 9,000 cubic feet per minute.

19. *How often shall the extendible probe used in conjunction with the methane detector be checked?*
- a) Prior to each operating shift.
20. *What must a mining machine operator do before tramping a machine?*
- a) The cutting devices of mining machines shall be locked securely by mechanical means or electrical interlocks while the machine is parked or being trammed.
21. *What type of equipment is required to have methane monitors?*
- a) All face cutting machines and mechanized equipment used to extract coal or load coal.
22. *Where shall the sensing device for methane monitors be installed on the longwall?*
- a) The sensing device shall be installed at the tailgate or the return end of the longwall face.
23. *At what methane concentration shall the methane monitor give a warning signal?*
- a) One (1%) percent of methane.
24. *At what concentration of methane shall the methane monitor automatically de-energize electrical equipment?*
- a) Two (2%) of methane.