Mobile Gas Leak Survey Study Guide:

Question and answer:

How often should gas with odorant be surveyed in a transmission line? (2)
- Once every calendar year
- Not to exceed 15 months

How does surveying gas without an odorant differ from gas with an odorant? (1)
- Surveys are done more often

What determines frequency of gas surveys in distribution lines? (2)
- Location
- Company procedures

What types of gas detecting units are used? (7)
- FI
- HFI
- CGI
- IF
- OMD (Optical methane detector
- Photoionization detector
- Catalytic Bead detectors

What steps must a worker take with their equipment before operating it? (3)
- Test
- Calibrate
- Check its parts

When a gas leak is detected, what steps need to be performed? (4)
- Investigate
- Center
- Pinpoint
- Classify

What other equipment may be used in a gas leak survey? (5)
- Maps
- Probes
- Plunger bar
- Soap test
- Communication equipment

What is a “bump check”? (1)
- Daily instrument functionality test

What are the best GDE calibration practices? (4)

- Zero it in gas free environment
- Calibrate with certified sample of methane test gas
- Ensure test gas has not expired
- Ensure instrument repair techs are trained

When should a worker calibrate a detection instrument? (5)
- Before beginning a mobile survey
- Periodically through a sample day
- Regular intervals during prolonged periods without usage
- After instrument repair
- Whenever it is suspected instrument's calibration has changed

What should a worker's daily equipment check include? (5)
- Hoses
- Filters
- Probe
- Sensor
- Electronics

What determines the maximum intervals between pipeline surveys? (5)
- Class locations
- Type of operations
- Local conditions
- Presence of cathodic protection and odorant
- Whether the location to be surveyed is in a business district

What are commonly used vehicles to conduct street surveys? (3)
- Car
- Truck
- All terrain

What are gas leak detection instruments designed to detect? (1)
- Methane gas in the atmosphere

Are they sensitive to other forms of gas? (1)
- Yes

What is a common gas that can cause false readings during a vehicle survey? (1)
- Automobile exhaust

Because of potential false readings from automobile exhaust, where should gas detecting equipment be mounted on a vehicle? (1)
- Front of the vehicle

Which gas detecting equipment has the maximum speeds of 5 miles per hour or less? (3)
- FI
- HFI
- CGI

Are speeds for OMD or laser-based detection slower, higher or the same? (1)

- Higher

What are optimal weather conditions for conducting a mobile gas survey? (3)

- Low or no wind
- Normal ground moisture
- Unrestricted venting conditions

What are the steps to conducting a mobile gas survey? (5)

- Review maps/records
- Plan course
- Assemble proper equipment
- Check equipment
- Conduct mobile survey

What is the proper equipment for a mobile gas survey? (4)

- Mount on vehicle
- Secondary pump
- Flow gauge
- Appropriately displays warning lights/signs

What are the next steps after a leak is found? (4)

- Investigate
- Pinpoint
- Center
- Classify

What does bar hole testing do? (1)

- Help center the leak by locating where methane level readings are highest

What is this called? (1)

- Pinpointing

What is another name for bar holing? (1)

- Probe bar investigation

What does centering a leak indicate? (1)

- Where the leak is located

Does centering identify the source of the leak? (1)

- No

Why is it important to classify a leak? (3)

- To identify the nature of the leak
- To identify the severity of the leak
- To dictate scheduling of follow up surveys or repairs

What should be the first response to a leak? (1)

- Ensure safety of persons, then property

What are likely sources of leaks? (3)
- Recent repairs
- Pipeline fittings
- Construction disturbances

What is pinpointing? (1)
- Locating source of leak

What are the first areas in a survey to test when pinpointing? (4)
- Manholes
- Utility boxes
- Buried vaults
- Catch basins

Where should bar hole testing be performed? (2)
- Curbs
- Adjacent buildings

What determines when it is appropriate to aerate or vent gas for safety? (1)
- Depends on source and location of leak

What is usually used to vent gas? (3)
- Soil purger
- Aerator
- Evacuator

What is required for documentation of a mobile gas survey? (8)
- Name
- Date
- Location
- Results
- Forms required by operator
- Maps
- Leak survey schedules
- Leak repair work orders

Multiple Choice:

Which of the following is NOT to be included in the gas detection instrument daily check?
a: Spare parts
b: Hoses
c: Filters
d: Sensors

Answer: A

Which of the following is NOT commonly used during mobile gas leak surveys?

a: Maps
b: Soap test solution
c: Plunger bar
d: Extraction rod

Answer: D

What is another name for the daily instrument functionality check?

a: Launch test
b: Bump check
c: Start test
d. Tap test

Answer: B

Which of the following is NOT an optimal condition for conducting a mobile gas leak survey?

a: Unrestricted venting
b: Low or no wind
c: Light precipitation
d: Normal ground moisture

Answer: C

Which of the following is NOT a type of vehicle commonly used in a mobile gas leakage survey?

a: Car
b: Truck
c: All-terrain vehicle
d: Survey drone

Answer: D

Which of the following could be likely to cause false readings on gas detection instruments during a mobile gas leak survey?

a: Methane gas
b: Odorized natural gas
c: Automobile exhaust
d. Water vapor

Answer: C

How does vehicle speed for a FI device compare to vehicle speed for laser-based detection equipment sampling?

a: Slower
b: The same
C: Faster

d: Much Faster

Answer: A

Abnormal Operating Conditions:

Recognize: Unexpected presence of gas

- React: Report to direct supervise to have qualified individual repair

Recognize: Ignition of released gas/hazardous liquid resulting in fire or explosion

- React: Call 911

Recognize: Detected gas leak

- React: Make safe, classify leak, monitor or repair, complete documentation

Recognize: Hazardous atmospheric condition

- React: Notify supervisor. Only continue work if safe to do so with appropriate PPE

Summary:

Why do we conduct mobile gas leakage surveys?

- It is an important part of monitoring and maintaining safe pipelines

What is important to do with equipment before starting a mobile gas leak survey? (3)

- Test equipment
- Calibrate
- Set appropriate sensitivity settings

What should be done if a leak is detected? (4)

- Investigate
- Center
- Pinpoint
- Classify

What is centering?

- Indicates where the leak is located

What is pinpointing?

- Locating the source of a leak