

Leak Detection Abnormal Operating Conditions Expected Responses

Natural gas leak detected:

Retrace path to determine whether natural gas or other combustible fumes have been located. Determine percentage concentration of natural gas. Determine boundaries of the leak. Report class A and H leaks to Dispatch for immediate action. Report all leaks on the appropriate form.

Instrument malfunction:

Each instrument used for leak detection and evaluation should be operated in accordance with the manufacturers operating instructions and should be periodically "checked" while in use to insure that the recommended voltage requirements are available. Instruments should be tested daily or prior to use to insure proper operation, to insure that the sampling system is free of leakage, and to insure that the filters are not obstructing the sample flow.

In the event the instrument fails to perform satisfactorily, refer to the manufacturers operating manual for troubleshooting.



Questar Gas – Questar Pipeline

Workbook / Module:
Emergency Response (62)

DOT OPERATOR QUALIFICATION – QUALITY ASSURANCE REVIEW

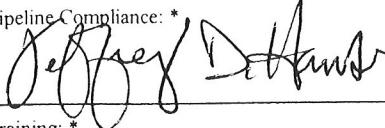
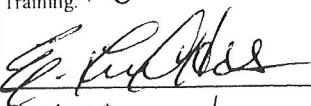
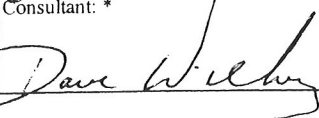
- PURPOSE:** Review completed module to verify:
- Conformity to DOT requirements
 - Adequate content on covered task
 - Addresses abnormal operating conditions
 - Identifies training resources available
 - Defines evaluation and acceptance criteria
 - Identifies requalification requirements
 - Appropriate record keeping

Note: The training outline might be developed at a later date on an “as needed” basis.

PREPARED BY

Consultant: Dave Wilkey	Department: Operations Training	Phone: 3960
Preparer: Dave Wilkey	Department: Operations Training	Phone: 3960

QUALITY ASSURANCE REVIEW

SIGNATURE	DATE	SIGNATURE	DATE
Pipeline Compliance: * 	9/11/05	Other:	
Training: * 	6/1/05	Other:	
Consultant: * 	6-1-05	Other:	

* Required, at a minimum.

Emergency Response (Module 62)

I. Purpose

- A. To verify general knowledge elements associated with emergency responses due to underground gas leaks, broken and blowing gas lines, gas in or near structures, gas related fires and explosions, abnormal qualities and pressures of gas, civil disturbances, natural disasters and major disasters
- B. To verify individuals knowledge and skill level through written examination
- C. To verify individuals ability to recognize and respond correctly to abnormal operating conditions

II. Resources

- A. Questar Gas Emergency Plan Manual
 - 1. Section V "Controlling Emergency Situations"
- B. Questar Gas Company Standard Practices Procedures Manual
 - 1. Standard Practice 2-17-02, "Excavation and Backfill"
 - 2. Standard Practice 2-33-01, "Squeezing off Plastic Pipe"
 - 3. Standard Practice 2-33-02, "Squeezing off Steel Pipe"
 - 4. Standard Practice 3-75-01, "Evaluating Gas Leak Reports"
 - 5. Standard Practice 4-55-01, "Mueller D4 & D5 Drilling Machine and Mueller H17135 Stopping Machine Operating Procedure"
 - 6. Standard Practice 4-55-04, "Tapping and Plugging Procedures for 2" Williamson Tapping and Stopping Equipment"
 - 7. Standard Practice 4-65-02, "Conducting Leak Surveys with the Heath Detecto Pak II, Heath Detecto Pak III or the Southern Cross Flame-Pack Portable Flame Ionization Leakage Detectors"
 - 8. Standard Practice 5-00-02, "Repair Procedures for Damaged Plastic Pipe and Fittings"
 - 9. Standard Practice 5-00-03, "Repairing Steel Pipe"
 - 10. Standard Practice 5-00-08, "Underground Gas Leak Procedures"
 - 11. Standard Practice 8-10-00, "Personal Protective Equipment"
 - 12. Standard Practice 8-10-01, "Eye and Face Protection"
 - 13. Standard Practice 8-10-03, "Selecting, Using and Maintaining Fire Suits"
 - 14. Standard Practice 8-10-04, "Protective Clothing Equipment"
 - 15. Standard Practice 8-12-01, "Portable Fire Extinguishers"

III. Abnormal Operating Conditions

- A. Leaking gas underground
- B. Leaking gas in a building
- C. Gas in a duct system

EMERGENCY RESPONSE TRAINING OUTLINE

Covered Task: Emergency Response

Standard Practice QGC: 2-17-02,2-33-01,2-33-02,3-75-01,4-55-01,4-55-04,4-65-02,5-00-09,5-00-09,8-10-00,8-10-01,8-10-03,8-10-04,8-12-01

Emergency Plan Section V

49 CFR 192.605, 192.615

Module 62

I. Expected Outcomes

- A. Understand priority of actions taken during gas related emergencies
- B. Understand emergency action considerations
- C. Understand what constitutes system emergencies
- D. Understand company policy regarding service interruptions, civil disturbances and major disasters.
- E. Understand company policy of assisting with non-natural gas leaks of combustible substances.

II. Lesson

A. Safety

- 1. Ensure maximum precautions are taken for the safety of the general public and company personnel when a gas leak is detected.
- 2. Ensure all possible sources of ignition are eliminated until source of leak is determined and made safe.
- 3. Ensure all required safety equipment is available and used if situation requires.

B. Training

- 1. Emergency action will be established on a priority basis. High priority level action will always take precedence over lower level priority action.
 - a. General public safety.
 - b. Employee safety.
 - c. Property damage protection
 - d. Customer inconvenience.
 - e. Public relations.
 - f. Economic considerations.
- 2. Emergency Action Considerations
 - a. The first Company personnel at the scene will determine the existing hazards. The following measures will be considered and taken as necessary to minimize hazards:

- c. Fires in Buildings.
 - 1) The first priority action of a fire in any building will be to shut off the gas supply to the building.
- d. Fires in Gas Piping.
 - 1) Institute the appropriate measures required to stop the flow of gas and the appropriate measures required to protect the surrounding area from the consequences of the fire.
 - 2) The decision to extinguish the fire before the escaping gas has been stopped will be made on the basis of the following considerations.
 - i. The hazard involved to the surrounding area if the fire continues to burn.
 - ii. The potential explosion hazard if the fire is extinguished.
 - iii. The potential hazards of re-ignition if the fire is extinguished.
 - iv. In most cases if a fire exists and it is being fed by leaking gas, do not extinguish the fire, protect the structure. If the gas fire is put out and a structure is still burning the second ignition of the gas may be more violent than the first.
- e. Fires in Meter or Pressure Limiting Stations.
 - 1) Status and function of regulating equipment.
 - 2) Potential hazard of over or under pressure within the system.
 - 3) Potential hazard of rupture to piping or station equipment.
 - 4) Consequences involved if facility is removed from service.
 - 5) Consider installation of bypass piping.
 - 6) After evaluation of the condition is complete, appropriate action will be taken.
- f. Explosions.
 - 1) Explosions in Buildings.
 - 2) Shut off the supply of gas to that building. This action is to be initiated regardless of the cause of the explosion.

- 1) Whenever an indication of natural gas has been found within or against the foundation (within 10 feet, 20 feet during the winter season) of a building or any gas registering a stable reading on a combustible gas indicator (approximately 2% or more) is detected within a duct system, such as a sewer, telephone, storm drain or power, the following action will be immediately taken:
 - i. Evacuate building(s).
 - ii. Eliminate potential sources of ignition that are in the immediate area.
 - iii. Check all gas equipment and piping for leaks and defects. If any leaks or defective equipment are found, corrective action will be taken.
 - iv. Initiate a leak survey of the immediate area and surrounding structures to determine if there are any leaks in the underground piping system.
 - v. Ventilate the atmosphere of inside areas which are found to contain natural gas. Ground areas containing natural gas will be ventilated by excavating holes at suitable locations.
- d. Abnormal Quality of Gas.
 - 1) Abnormal BTU Value
 - i. Consider any or all of the following:
 1. Isolate the system or segment of the system.
 2. Blend with other gas to achieve desired BTU level.
 3. Divert the gas to another area.
 4. Blow down and/or purge.
 5. Use the gas, as is, depending on the conditions.
- e. Abnormal Water Content
 - 1) Isolate the system or segment of the system.
 - 2) Blend with other gas to reduce water content to acceptable level for pipeline specifications.

- b. The Company will become involved only in those actions which are required as follows:
 - 1) Solicit protection for its facilities.
 - 2) Maintain the facilities.
 - 3) Protect the public from the consequences of damage to its facilities.
 - 4) Protect its employees from the consequences of the disturbance.

- c. The following action will be taken by Company employees during a civil disturbance:
 - 1) Employees will report to specific duty stations as requested or otherwise assigned.
 - 2) Employees will not enter a riot area or an area of civil disturbance alone.
 - 3) Police protection will be solicited for employees entering an area of civil disturbance.
 - 4) Employees will make every effort to avoid any involvement with riot or civil disturbance participants.

- d. Management will evaluate the system to determine area or points in the system which could be affected by the disturbance. Particular emphasis will be given to the following:
 - 1) Pressure limiting and measuring stations.
 - 2) Valves and valve assemblies.
 - 3) Company office buildings.
 - 4) Vehicle storage areas.
 - 5) Compressor stations.
 - 6) Dispatch centers.
 - 7) Exposed piping.

- ii. Richter magnitude.
 - iii. Epicenter Location.
 - iv. Any other pertinent information they possess.
- 3) Questar Gas Center Manager or their designated alternates will notify Gas Control whenever they “feel” an earthquake. Notification should be received from Center Manager within minutes of the event. This information should be recorded on a permanent log and the call list should be initiated. Center Manger should provide the following:
- i. Date and time of earthquake.
 - ii. Relative strength of ground motion.
 - iii. If a “roaring” sound was produced by the earthquake.
 - iv. Whether damage to buildings or the gas system might be expected.
 - v. Whether the Center Manager will initiate the post earthquake facility inspection procedure for checking the gas system.
- 4) Initial Action.
- i. All employees will report to pre-assigned duty stations as soon as possible.
 - ii. All employees assigned liaison functions will report to liaison area as soon as possible.
 - iii. The command post will establish communication with central command and all liaison areas.
 - iv. Personnel and equipment will be dispatched by the command post to damaged facilities to repair, assess and evaluate the extent of the damage.
 - v. The priority of repair work will be coordinated through central command.

- g. When the cleanup operation is completed, Company personnel will assist, if called upon by the community person in charge of the operation, by providing backpack flame-ionization reads from specified locations so those in charge of the operation may assess the safety of the system from combustible contamination.
- 8. Restoring Service after Non-Natural Gas Leak Emergency.
 - a. Company actions in these situations will be in conformity with our evacuation procedures and policies for restoration of service. This will generally take the form of clearing the premises with leak survey equipment prior to relighting appliances.
 - b. Company personnel will make the final decision of declaring the premises cleared and safe for all service restoration.
 - c. Depending upon the circumstances, service personnel in a relight operation will inform the premises occupants of the safeguards of keeping water in floor drains and suggest to the occupants to check their drains and put water in the ones that are dry.

