

		GAS OPERATIONS MANUAL WALKING LEAK SURVEY		GOM 70.10.40
Department:	Technical Services	Date Approved:	11-8-2021	
Approved by:	Frank Bennett	Date Effective:	1-3-2022	
Revision Number:	4			

Purpose

The purpose of this procedure is to provide the guidelines for conducting a walking leak survey.

Scope

This procedure covers leak surveys conducted on foot.

Responsibilities

- A. Director Engineering and Technical Services is responsible for approving changes to this document.
- B. The Sr. Manager Standards and Materials is responsible for reviewing and updating this procedure to meet changes in regulations or operating practices.
- C. The Operations Supervisor or Leak Survey Coordinator will be responsible for assigning this task to qualified individuals.
- D. Persons who perform walking leak survey are responsible for doing so in accordance with these procedures.
- E. Users of a procedure are encouraged to provide feedback on the procedure.

Equipment

Person performing walking leak survey require the following equipment:

- A. Personal Protection Equipment - -- Including but not limited to hard hat, traffic safety vest, safety-toed footwear, safety glasses and work gloves as required (See UGI Utilities Safety & Health Manual 500.90).
- B. A calibrated Combustible Gas Indicator (CGI) See GOM 7.10.20 "Leak Investigation and Survey Equipment" for listing of approved instruments and specific instructions
- C. Maps/Service Record Cards
- D. Mobile Data Terminal (MDT)
- E. Plunger bar (test-hole probe)
- F. Approved Class I, Division 1 Flashlight
- G. Screwdriver
- H. Communication device in vehicle
- I. Approved Leak Detection Solution (Leak Soap)

Operator Qualifications and Training

The following covered tasks are related to conducting a walking leak survey, and responding to a gas leak:

Task #15 – Inspecting For Atmospheric Corrosion

Task #27 – Investigating Leak/Odor Complaints

Task #98 – Leak Survey Walking (UGI 98, 99: PNG 18; CPG 1201.01)



Procedures

1.0 General

Walking leak surveys search for possible gas indications from UGI pipelines which cannot be covered by mobile survey. [GOM 70.10.10 Leak Survey](#) governs when the walking survey method is required.

Generally, a walking survey is the investigation of gas/air samples and a visual (vegetation) survey over UGI facilities.

2.0 Limitations of Use

Gas detection equipment effectiveness may be limited by adverse conditions such as periods of heavy rain, standing water, excessive wind, excessive soil moisture or frost or surface sealing by snow or ice. Follow the instructions of the particular manufacturer's operating instructions. FI units should not be used over standing water where there is a chance of water contacting the cones and being drawn into the sampling unit. See GOM 70.10.20 "Leak Investigation and Survey Equipment" for specific equipment limitations.

3.0 Walking Leak Survey Procedure

- 3.1 First Step Locate the facilities, mains or services, intended for survey.
 - 3.1.1 Use maps and service records where practical.
 - 3.1.2 Use visual indicators: curb and main valve boxes, meter sets, drip boxes, vents at building walls (for inside regulator), pipeline markers, One Call mark outs, and vegetation indications.
 - 3.1.3 In Lieu of maps, service records, or visual indicators: Use the "H" survey pattern (for services, described further below) or request line location assistance from qualified locators.
- 3.2 The survey shall be conducted by walking along the route of the pipeline to be inspected, using an approved instrument capable of reading 50 ppm or less set on its most sensitive scale.
- 3.3 Sample the atmosphere at the most logical venting locations for gas leaking. The sampling location should be close to ground level and not more than 2 inches above the ground or pavement surface. If using RMLD, the facility and likely migration paths should be scanned.
- 3.4 In areas where the piping is under pavement, the sampling is done at curb lines, available ground surface openings such as:
 - 3.4.1 Manholes and vault openings
 - 3.4.2 Valve boxes
 - 3.4.3 Drip Boxes
 - 3.4.4 Sewer drainage inlets and outside traps
 - 3.4.5 Power and telephone duct openings
 - 3.4.6 Fire and traffic signal boxes
 - 3.4.7 Cracks in the street pavement or sidewalk



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- d) Survey the opposite side of the building along the building line and return along the building line to the curb line.
- 3.8.4 Investigate any vegetation damage observations by probing areas of visual vegetation damage.
- 3.9 Observe and report to appropriate operations personnel any unusual safety conditions which may be affecting UGI facilities such as:
 - 3.9.1 Sinkholes, depressions undermining, subsidence or settlement in ground, street or sidewalks which may be affecting UGI facilities.
 - 3.9.2 Washouts around drainage areas or streams which may be affecting UGI facilities.
 - 3.9.3 Damage, [foreign contact, unauthorized usage](#).
 - 3.9.4 [Exposed piping - If UGI owned facilities identified in Section 3.5 are exposed to atmosphere and the integrity of the facility cannot be determined, carefully examine the piping and report back to supervision for further review](#).
 - 3.9.5 Recent excavation in proximity to UGI structures but without proper UGI markings.
 - 3.9.6 Changes in Identified Sites (See GOM 60.20.10).
- 3.10 Observe for Inactive or Undocumented Services and report same to appropriate operations personnel.
- 3.11 Atmospheric corrosion inspection will be conducted on all *exposed* UGI facilities surveyed such as bridge mains, above ground valves and regulator stations, [farm taps](#), service risers, service regulators, and meters. See [GOM 60.30.20 Atmospheric Corrosion Inspection](#).
- 3.12 For service lines terminating inside building, the inside portion is surveyed according to GOM 70.10.50 "Inside-Service Leak Survey Procedure".

4.0 Leak Indication Procedures

- 4.1 If leaks are found, on UGI facilities, they must be investigated and classified in accordance with:
 - 4.1.1 EP 3.1 "Gas Leak Investigation"
 - 4.1.2 GOM 70.20.20 "Leak Classification"
 - 4.1.3 GOM 70.20.30 "[Propane Gas Systems Leak Survey and Classification](#)"
 - 4.1.4 If the leak is an open, outstanding leak, complete the re-inspection of the leak by re-investigating the leak area, classifying the leak and recording gas readings in MapFrame.
 - 4.1.5 If leaks are found, on customer facilities, follow GOM 35.10.40 Tagging Procedures.

Record Keeping Requirements

Leak Survey

The leak survey shall be recorded using one of the following methods:

- a. MapFrame