GOAL:

SUBPART W COMPLIANCE

SOLUTION:

HEATH ENVIRONMENTAL SERVICES DIVISION

Heath's Environmental Services Division
Your Subpart W. Compliance Team Solution

Since 1933 Heath Consultants has been the leading service and technology provider of leak detection for the Natural Gas Industry. Heath's Environmental Services Division has pioneered the art of screening and quantifying lost and unaccounted for gas through years of experience using advanced leak screening and measurement technologies serviced and supported by Heath Environmental Services. Our global experience is the foundation for providing customized DI&M Programs.

Today, our Measurement Teams come to you equipped with the most advanced technologies and a top notch training regimen diverse in OSHA safety, instrumentation, leak detection, quantification, operator qualification and hands on field experience.

With over 800 facilities surveyed in the gas industry you can count on Heath to provide experienced planning and logistics, safe and reliable leak screening and measurement, accurate data collection and reporting, courteous and professional service exemplifying the highest ideals and integrity in mission execution.

EYE-C-GAS™ Imaging Camera: Making the Invisible Visible

Technician Performing Survey utilizing EYE-C-GAS™ Imaging Camera

The **EYE-C-GAS™** Imaging Camera's high sensitivity to a spectrum invisible to the human eye makes this a critical tool in fugitive gas leak detection. The camera offers a host of features including an internal audio/video recorder with a 2 gigabyte SD card for easy documentation, storage, and file transfer of leak monitoring records. Rugged and durable by design the EYE-C-GAS camera is well protected in the field with a large color LCD display for image and text.

The Rule: *§98.234 - Monitoring and QA/QC requirements for use of an optical gas imaging instrument for all source types that are inaccessible and cannot be monitored without elevating the monitoring personnel more than two (2) meters above a support surface. Monitor Storage Tank Vent Stacks annually for emissions using an optical gas imaging camera for a duration of 5 minutes.*

Applications For Gas Imaging:

- **Storage Tanks §98.233 (K) (1) §98.234 (a) (1) (4)**
- **Unit Valves when Compressors are Blown Down §98.234 (a) (4)**
- **Blow Down Valves with Compressors Running or Pressurized §98.234 (a) (4)**
- **Emergency Shutdown Valve Vents and Pressure Relief Valves Vents that are inaccessible or elevated more than 2 meters off the ground §98.234 (a) (4)**
- **General Leak Screening for potential Equipment Leaks §98.234 (a) (4)**

Technician measures valve grease fitting leak utilizing the Hi Flow Sampler.

Hi Flow Sampler™: The Number One Recommended and Preferred Direct Measurement Tool

The **Hi Flow Sampler** allows an accurate emission or leak rate to be made in less than one tenth the time required to perform an enclosure measurement. This portable, intrinsically safe, battery-powered instrument will give you the ability to accurately measure leak rates of all natural gas components.

The Rule: *§98.234 (d) - Monitoring and QA/QC requirements, it is prescribed that you are to use a high volume sampler to measure emissions within the capacity of the instrument. §98.233(o) – Centrifugal compressor venting, (3) For blowdown valve leakage and unit isolation valve leakage to open ended vents, you can use a high volume sampler according to methods set forth in 98.234 (d).*

The Hi Flow Sampler: Fastest Most Accurate and Reliable Method to Quantify 98% of Fugitive Leak Sources, including:

- **Rod Packings**
- **Wet Seal Oil Degassing Vents & Dry Gas Seal Vents**
- **Storage Tanks**
- **Unit Isolation Valve Leakage (with compressors blown down)**
- **Blow Down Valve Leakage (with compressors running or pressurized)**
- **All Other Equipment Leaks**

RMLD®-IS: Remotely Reaching Difficult To Survey Areas Safely

Applications For RMLD:

- **Above Ground metering and regulation stations in distribution**
- **Standard yard components (threaded connectors, unions, flanges, valve stem packings, valves, regulators, meters**
- **Dehydration and cooling towers**

Heath's intrinsically safe **RMLD®** quickly and efficiently detects leaks up to one hundred feet away allowing remote detection of hard-to-reach areas and difficult terrains. Remote detection allows the user to safely survey difficult to reach areas, such as: compressor stations, offshore platforms, plant and industrial inspections, production facilities (gas gathering, drilling sites) and more.

Technician utilizes Heath's RMLD® to screen a piping facility.

The Rule: *§98.234 (a) (3) - Monitoring and QA/QC requirements prescribe that you are to use an infrared laser beam illuminated instrument for equipment leak detection. Any emissions detected by the infrared laser beam illuminated instrument is a leak unless screened with Method 21 monitoring, in which case 10,000 ppm or greater is designated a leak. In addition, you must operate the infrared laser beam illuminated instrument to detect the source types required by this subpart in accordance with the instrument manufacturer's operating parameters.*

Leak Detection Equipment to Suit All Your Subpart W Requirements

The **Gasurveyor 3-500** Survey Pack is among the most flexible, reliable and affordable leak screening tools available today. Intrinsically safe, extremely rugged and simple to use, the user can perform a wide range of screening applications measuring gas concentration as a percent of the lower explosive limit (LEL) or percent gas by volume (UEL).

The Heath **Detecto Pak-Infrared (DP-IR™)** is a highly advanced technology using an infrared optical gas detection system. Combining two instruments into one, the DP-IR is intended to replace conventional Flame Ionization with the next generation technology utilizing a simple light beam, eliminating the need for expensive gas cylinders and refill systems. With an auto scaling display range of 0-10,000 PPM and 1-100% Gas by Volume, this leak screening tool not only makes a great backup tool for the Gas Imaging Camera, but more importantly, the perfect tool for Method 21 screening.

Gasurveyor 3-500 meets the requirements for *§98.234 (a) (2)*

Heath's DP-IR™ intrinsic safety rating makes this the perfect instrument for the inspection of an above ground block valve.

The Rule: §98.234 (a) (2) *for Monitoring and QA/QC requirements it is prescribed that you will use equipment leak detection methods in 40 CFR Part 60, Appendix A-7, Method 21. If using Method 21 monitoring, if an instrument reading of 10,000 ppm or greater is measured, a leak is detected. Inaccessible emissions sources, as defined in 40 CFR Part 60, are not exempt from this subpart. Owners or operators must use alternative leak detection devices as described in paragraph (a) (1) of this section to monitor inaccessible equipment leaks or vented emissions.*

§98.232: GHGs to report: Sections (c, d, e, f, g, h, i) *For natural gas facilities, report CH4 emissions from (subsection 21) Equipment leaks from valves, connectors, open ended lines, pressure relief valves, meters, regulators, pumps, flanges and other equipment leak sources (such as instruments, loading arms, stuffing boxes, compressor seals, dump lever arms, and breather caps).*

Affected Source Categories that need to comply with Subpart 98.232 include ALL natural gas facilities.

Applications For Gasurveyor 3-500 or DP-IR:

- **Valves**
- **Connectors**
- **Open ended lines**
- **Pressure relief valves**
- **Flanges**
- **Regulators**
- **Pumps**
- **Pipeline main equipment leaks**
- **Service line equipment leaks**
- **Above and below ground meters; regulators at city gate stations**
- **Other equipment leak sources (such as loading arms, stuffing boxes, compressor seals, dump lever arms, breather caps)**

Unit Valve / Blow Down Valve Leakage

Three Cubic Foot Anti-Static Calibrated Measurement Bag

Heath's Calibrated Vent Measurement Bags are manufactured with an anti-static polyethylene plastic and fabricated with a special neck to fit over a wide range of open ended lines. This three cubic foot bag allows a low-pressure drop measurement of vented systems that may not tolerate significant back pressure. The use of these "Vent-Bags" has been calibrated in our laboratory against rotometer measurements and been found accurate to within +/- 10%. Given proper training while observing strict safety guidelines, this technique for measuring large natural gas leaks can be safe, expedient and affordable.

Applications For Calibrated Measurement Bags:

- **Leakage that exceeds the capacity range of a Hi Flow Sampler (10.5 scfm), attempt a measurement on the following components:**
  - **Rod Packing Measurements**
  - **Blow Down Valve Leakage**
  - **Unit Isolation Valve Leakage**
  - **Wet Seal Oil Degassing Vents**

The Rule: §98.234 (c) Use calibrated bags (also known as vent bags) only where the emissions are at near-atmospheric pressures such that it is safe to handle and can capture all the emissions, below the maximum temperature specified by the vent bag manufacturer, and the entire emissions volume can be encompassed for measurement.

Hi Flow Sampler Calibration Kit

The Hi Flow Sampler Calibration Kit provides everything needed to perform a complete field calibration and verification test. The kit includes two 53-liter gas bottles, 2 transfillers, 1 demand regulator, Tygon tubing with couplers, all in a durable hard-shell case. Optional disposable kit is available.

When to Calibrate Your Hi Flow Sampler:

- **Once a month**
- **Perform a daily drift test or "verification" test**
- **Daily drift/verification test should be performed against the calibration to insure drift has not occurred outside the 5% accuracy boundary**

HEATH CONSULTANTS

1-800-HEATH-US
www.heathus.com
Corporate Office:
9030 Monroe Road, Houston, TX 77061