

A New Alternative Leak Survey Work Practice from The Environmental Protection Agency in the US

The Environmental Protection Agency, EPA, in the US has recently added an alternative work practice to the Method 21 leak surveys that gas processing plants and the like must perform annually. In this section we render the new rules as it has implications to the work with FLIR's Gas Detection Cameras.

Optical gas imaging can be used as an alternative work practice, AWP, to Method 21 instruments, e.g. sniffers. The optical instrument must be checked each day it is going to be used. The instrument check consists of using the optical gas imaging instrument to view the mass flow rate required to be met exiting a gas cylinder. Operators using the AWP must keep records of the detection sensitivity level, the analysis to determine the stream containing the lowest mass fraction of detectable chemical and the basis of the mass fraction emission rate calculation. Documentation of the daily instrument check, video or written in a log book, must be kept for 5 years. The video records of the leak survey with identifiable subparts of the regulated equipment must be kept for at least 5 years.

If the operator finds a leak with the optical instrument and repair, re-screening of the repaired leak can be performed using either the optical instrument or a Method 21 instrument. If the leak was found with Method 21 instruments these must be used to re-screen after repair. Once a year, the plant or site must be screened with the old Method 21 instruments and procedures.

The operator must use optical instruments capable of imaging compounds in the streams. The imaging instrument must provide the operator with an image of the leak and the leak source. There is a stipulated leak rate threshold for one compound in a stream. The leak rate must be scaled down, to account for compounds that are not seen in the stream.

Reduced monitoring frequencies for good performance are not applicable when using the AWP.

A Method 21 instrument reading of less than 500 ppm above the background level, from an identified equipment subpart, is defined as having no detectable emission.

Leak Survey Procedure

Image every regulated piece of equipment in accordance with the instrument manufacturer's operating parameters. All emissions imaged are considered to be leaks and are subject to repair.

Record keeping

- The equipment, processes, and facilities for the AWP.
- The detection sensitivity level selected from Table 8 for the optical gas imaging instrument.
- The analysis to determine the piece of equipment in contact with the lowest mass fraction of chemicals that are detectable.
- The technical basis for the mass fraction of detectable chemicals used in the equation.
- The daily instrument check (e.g. distance, flow meter reading, lens, filter). Date and time stamp must be included. The record must be kept for at least 5 years.
- A video record must be used to document the leak survey results. If the subparts are identified the video can be used as record of the leak survey. The video must contain a date and time stamp. The record must be kept for 5 years.
- The results from the annual Method 21 screening

Monitoring frequency per subpart	Detection sensitivity level (grams/hour)
Bi-monthly	60
Semi-Quarterly	85
Monthly	100

Table 8: Detection sensitivity levels

Reporting

- Submit the reports to the EPA Administrator by email.

Daily Instrument Check:

- Provide a source of gas (>98% purity)
- Set up the camera at a recorded distance to the gas outlet (flow meter)
- Open the valve of the flow meter to set a flow rate that will create the required mass rate
- Repeat steps A-C if several camera configurations will be used (e.g. different objectives, filters or camera settings)

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New Liquid Sampler with Air Driven Pump and Carry on Frame

Dopak® Sampling Systems (Netherlands) are produced and marketed by **Dovianus BV** (Netherlands) - Dopak® endeavours to set a worldwide standard for sampling liquids, liquified gases and gases in the chemical, petrochemical and pharmaceutical industries as well as in the biotechnology.

Dopak® has added a NEW design to their available range of DPM liquid samplers. This DPM sampler, in system purge configuration complete with an air driven pump and carry on frame, allows the product to be pumped continuously through the sampler to ensure the retrieval of a representative and contamination free sample. The carry on frame complete with flexible hoses and quick connects creates a portable sampler ideal for sampling liquids on board ships.

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