



**Pacific Gas and
Electric Company**

Gas Information Bulletin

Title: Leak Survey During and After Rain and Excessive Wind

Check all appropriate boxes

<input type="checkbox"/> SAFETY ALERT	<input checked="" type="checkbox"/> GAS	<input checked="" type="checkbox"/> DISTRIBUTION	<input type="checkbox"/> SUBSTATION ENGR.
<input checked="" type="checkbox"/> MANDATORY COMPLIANCE	<input type="checkbox"/> ELECTRIC	<input checked="" type="checkbox"/> TRANSMISSION	<input type="checkbox"/> TRANSDISUB. M&C
<input type="checkbox"/> RECOMMENDED ACTIONS	<input type="checkbox"/> ESTIMATING	<input type="checkbox"/> OPERATIONS	<input type="checkbox"/> APPLICANT DESIGNER /
<input checked="" type="checkbox"/> INFORMATIONAL/CLARIFICATION	<input type="checkbox"/> MAPPING	<input type="checkbox"/> SERVICE	CONSTRUCTION

The purpose of this bulletin is to provide guidance regarding environmental considerations when performing gas leak surveys. M&C Supervisors are responsible for communicating the contents of this bulletin to affected employees.

This document amends Attachment 1 of UO Standard S4110, *Leak Survey and Repair of Gas Transmission and Distribution Facilities*. This document will be incorporated into the initial release of Work Procedure TD-4110P-01.

Background

PG&E performs a surface leak survey using a variety of instruments to detect the presence of gas. The use of this survey method is limited by adverse conditions (such as excessive wind, excessive soil moisture or frost or surface sealing by ice or water). The current practice when using an HFI instrument is to survey at speeds slow enough to allow for an accurate sample to be drawn into the instrument. This is achieved by placing a probe over the most logical venting locations. When using an OMD, the survey speeds are also reduced to allow for better detection by the optical receiver. The OMD was tested by the manufacturer at wind speeds up to 25 MPH. (miles per hour). However, the manufacturer recommends limiting speeds to 10 - 15 mph to detect lower concentration leaks and allow the surveyor greater accuracy to locate leaks. When using an RMLD, similar considerations exist. The gas plume detected by the instrument is variable and dependent on the soil conditions, temperature, wind, and leak rate. The manufacturer recommends surveying with the wind to the operator's back.

- **Excessive Soil Moisture**
Performing leak surveys during periods of rain or over standing water after rain have the potential to damage HFI units. Additionally, venting conditions may have changed as a result of ground saturation.
- **Excessive Wind**
The equipment manufacturer has indicated that wind velocity has, generally, more influence on the ability to perform a successful survey than any other environmental factor. The ideal condition is when the wind velocity is zero MPH. Very heavy winds, on the other hand, dilute the sample and disperse the sample in the air. In the PG&E service territory, the problem of prevailing winds is usually mitigated by starting the survey earlier in the morning and ending earlier in the afternoon.

Procedure

1. Do not leak survey during periods of rain, snow or when visible moisture (fog or mist) is present or if the steady state wind speed exceeds 15 MPH.
2. Determine if conditions are appropriate for the leak survey to be conducted during windy conditions or to resume after periods of heavy rain:
 - Each division/headquarters must establish a set of known graded and unrepaired below ground leaks in geographically dispersed areas for easy reference. This set must be reviewed semi-annually by the leak survey supervisor.
 - Verify the presence of one or more graded below ground leaks, chosen by the local supervisor. It must be detectible using normal survey techniques.
 - The leak verification location must be similar to and near the location where surveying will resume. The location must not be in substructures such as valve boxes, curb indices, regulator stations etc.
 - This leak verification must be performed using the same instrument type as will be used to resume the leak survey. The instrument type used must be the instrument used to detect leaks (e.g. HFI, OMD or RMLD).

DEFINITIONS

Fog: A weather condition that forms water droplets on the ground, landscape or structures.

HFI: Hydrogen Flame Ionization

OMD: Optical Methane Detector

RMLD: Remote Methane Leak Detector

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