

GasFind IR Use Protocol

September 27, 2006

The GasFind IR camera technology offers a unique technological advancement in pollution detection capability, and has proved to be highly effective in the detection of volatile organic compound (VOC) emissions from leaks and previously unidentified or unrecognized sources. The camera will serve as an additional tool to assist the agency in actions such as facility investigations, reconnaissance investigations, mobile monitoring, and special projects. This document briefly outlines uses and potential uses for the camera and provides guidance for the camera's use.

Uses

- 1) Surveillance (from offsite)
 - a) Field Operations Division
 - i) Screen to identify potential sources of contaminants in response to ambient or other monitoring results that indicate elevated concentrations.
 - ii) Screen to identify sites, or areas within a specific site, where a focused investigation may be conducted.
 - iii) Screen to identify potential sources of complaints.
 - b) Monitoring Operations Division
 - i) Screen to identify potential sources of monitored concentrations.
 - ii) Screen areas to identify a potential sampling location (mobile or fixed).
 - iii) Coordinate with Pollution Prevention and Industry Assistance for possible pollution prevention site assistance visits.
 - c) Chief Engineer's Office Special Projects
 - i) Identify a need for source control strategies or to assist in an assessment of existing strategies.
 - ii) Screen potential sources for SIP/Rule considerations.
 - iii) Screen sources for Emissions Inventory issues.
- 2) Augment and Bolster Existing Compliance Investigations
 - a) The camera may be included on any investigation where a summa canister, TVA 1000, or similar VOC detection equipment would be appropriate.
 - b) The camera may be used concurrently with Leak Detection and Repair (LDAR) investigations. LDAR investigations will continue to follow the existing agency LDAR protocol. The camera may be used to detect leaks for repair at any areas within the plant site, but it will not be utilized within the sample plot until all components in the population of interest in the final plot have been sampled (Refer to LDAR Guidance 05/24/06).

Notifying the Regulated Entity

A fact sheet will be developed that describes the use of the GasFind IR camera and that provides contacts in the agency for obtaining more detailed information. The fact sheet and this protocol document will be available to anyone interested in TCEQ activities

associated with the camera and will be provided to regulated entities, the public, and security or law enforcement officials along with proper agency credentials while in the field. This information is also available on the TCEQ website.

- 1) The regulated entity will be notified prior to scheduled on-site investigations that the Field Operations Division investigator will bring the camera if one is available. The notification may help identify any hot work permit issues and facilitate entry into the plant.
- 2) Regulated entities will be notified in advance if the camera is used during Field Operations Division reconnaissance or Mobile Monitoring (off-site) investigations from an unmarked vehicle/vessel.
- 3) If the TCEQ enters into an agreement with another entity to provide assistance in conducting surveys of multiple potential sources from a non-TCEQ vehicle/vessel, such as flyovers or surveys conducted from marine vessels along waterways, an initial notification based on homeland security issues will be provided. The notification will identify the general area and time of the survey and will be provided to the State Operations Center. Efforts will also be made to notify appropriate federal, state, and local agencies with jurisdiction in the survey area. Notification to other potentially affected parties may be provided on a case-by-case basis.

Sharing Camera Images

- 1) Onsite Investigations
 - a) Images can be viewed by the regulated entity concurrently with the investigator using Archos.
 - b) Recorded images will be handled/provided consistent with other sampling/monitoring information (QA/QC and open records processes).
 - c) The regulated entity should identify any targets for which images would expose trade secrets typically subject to confidentiality, and those images will be handled consistent with other sampling/monitoring information containing confidential information.
- 2) Reconnaissance
 - a) Images must be peer reviewed by at least one other qualified TCEQ staff member with appropriate expertise.
 - b) Recorded images should be handled consistent with the standard procedures applicable to other sampling/monitoring information.
 - c) Emergency Situations Identified by the Camera
 - i) Staff will immediately withdraw to a safe distance.
 - ii) Staff will then immediately contact the regional office.
 - iii) Procedures will then be followed consistent with standard emergency response command and control structure.

Image Verification

- 1) The specific location of suspected sources in images captured by the camera must be identified. This may include the use of compass direction, FIN or EPN identifier, GPS location, standard digital camera images, and narrative descriptions.
- 2) At least one qualified TCEQ staff member with appropriate expertise will be used to peer review and verify images.
- 3) Images may be e-mailed to other trained staff for review and verification.
- 4) Images may be reviewed by staff with process knowledge for the targeted unit.
- 5) FLIR personnel may be consulted.

Title V Deviation Reports

Images of apparent unauthorized VOC emissions captured by a regulated entity during voluntary use of the camera must be investigated by the regulated entity as described below:

- 1) The follow-up investigative actions will be dependent upon the specific situation, but should be consistent with those typically used to confirm and follow-up on potential unauthorized emissions identified by other means (olfactory, eyesight, for example).
- 2) Where follow-up actions verify there is no potential deviation from a regulatory requirement, the images and follow-up actions do not need to be included in a deviation report or in an annual permit compliance certification.
- 3) Where the follow-up actions identify a potential deviation, in order to be consistent with Title V requirements, the deviation report must include a description of the video images, follow-up actions, cause of the deviations, and any corrective actions or preventive measures taken. The follow-up actions and results will be reviewed following standard procedures to determine if a violation exists, or if there is simply a deviation.