

TCEQ Optical Gas Imaging Camera Use Protocol

Optical gas imaging camera (OGIC) technology offers a unique technological advancement in pollution detection capability and has proved to be highly effective in the detection of hydrocarbon and volatile organic compound (VOC) emissions. The OGIC is a tool used to assist the Agency in activities that involve various TCEQ functional areas and other regulatory agencies. These activities include but are not limited to facility investigations, reconnaissance investigations, mobile monitoring, emergency response events, and special projects. This document briefly outlines how the OGIC is used and provides general guidance for TCEQ staff.

Standard TCEQ Use of OGICs

- 1.0 Surveillance (from off-site)
 - 1.1 Regional Field Staff
 - 1.1.1 Screen areas to identify hydrocarbon and VOC emissions in an effort to minimize staff exposure.
 - 1.1.2 Screen to identify potential sources of contaminants in response to ambient or other monitoring results that indicate elevated concentrations.
 - 1.1.3 Screen to identify regulated entities, or specific areas at a regulated entity site, where a follow-up investigation appears to be warranted.
 - 1.1.4 Screen to identify sources of emissions that have the potential for nuisance impacts to surrounding properties.
 - 1.2 Monitoring Division
 - 1.2.1 Screen areas to identify hydrocarbon and VOC emissions in an effort to minimize staff exposure.
 - 1.2.2 Screen to identify potential sources of monitored concentrations.
 - 1.2.3 Screen areas to identify potential sampling locations (mobile or fixed).
 - 1.3 Air Quality Division
 - 1.3.1 Screen sources to evaluate the use of voluntary control strategies or evaluate the effectiveness of control strategies.
 - 1.3.2 Screen and identify sources that could be significantly contributing to a National Ambient Air Quality Standard (NAAQS) violation or potential NAAQS violation.
 - 1.3.3 Screen sources to identify unreported or potentially underreported emission points.
- 2.0 Augment and Bolster Existing Compliance Investigations
 - 2.1 When available, the OGIC could be used during an investigation with potential hydrocarbon and VOC emissions.
 - 2.1.1 The OGIC could be used to record a baseline of potential emissions or identify potential emissions of concern during scheduled compliance investigations. The emissions may be viewable off-site or on-site.
 - 2.1.2 The OGIC could be used during investigations that are following up on OGIC screening activities to better document the emissions and the source

- 2.2. The OGIC may be used concurrently with Leak Detection and Repair (LDAR) investigations. When conducting an audit of a facility's LDAR program, the OGIC may be used to detect fugitive emissions at any areas within the plan in conjunction with the Method 21 survey.

Emergency Situations Identified with the OGIC

- 3.0 Should an emergency situation be identified through use of the OGIC, the following actions will be taken.
 - 3.1 Staff will immediately withdraw to a safe distance.
 - 3.2 Staff in the field will immediately contact the regional office or the regulated entity as appropriate.
 - 3.3 Procedures consistent with general emergency response practices will be followed.

Notifying the Regulated Entity

- 4.0 The Optical Gas Imaging Camera Information Sheet has been developed and describes the use of the OGIC and provides contacts in the Agency for obtaining more detailed information. The information sheet and this protocol document are available to anyone interested in TCEQ activities associated with the OGIC and will be provided upon request.
 - 4.1 The regulated entity will be notified prior to a scheduled on-site investigation, in accordance with current TCEQ policy regarding such notifications, that the Agency investigator will bring the OGIC. The investigator will use this notification to identify any issues, such as the need for hot work permit(s), which may limit or delay entry into the plant.
 - 4.2 Regulated entities will be notified in advance if the OGIC is used during Agency reconnaissance or off-site investigations from an unmarked vehicle/vessel. Reconnaissance activities from properly marked state vehicles will not require prior notification to the facility but may require notification to other agencies involved with homeland security activities (e.g. port authorities, U.S. Coast Guard, etc.).
 - 4.3 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 OGIC Images

- 5.0 Types of OGIC Assessments
 - 5.1 On-site Investigations
 - 5.1.1 Images may be viewed by the regulated entity concurrently with the investigator.
 - 5.1.2 Recorded images will be managed consistent with other sampling and monitoring information following quality assurance/quality control (QA/QC) image review processes and/or Agency policies related to public information.

- 5.1.3 The regulated entity should identify any targets for which images would expose trade secrets typically subject to confidentiality, and those images will be handled in a manner consistent with other sampling/monitoring information containing confidential information.
- 5.2 Reconnaissance
 - 5.2.1 The OGIC will be used in a manner consistent with other TCEQ reconnaissance sampling and data collection methods.
 - 5.2.2 Recorded images will be managed consistent with OGIC guidance document Procedures for Managing Optical Gas Imaging Camera Images and/or Agency policies related to public information.
 - 5.2.3 If emission sources of concern are identified with the OGIC, at a minimum, an Air Site Visit Questionnaire should be submitted to the regulated entity as soon as practical so relevant process information can be gathered and analyzed by the TCEQ.

Image Verification

6.0 Requirements

- 6.1 The specific location of sources of interest in images captured by the OGIC must be identified. This may include but is not limited to the use of compass direction, facility identification number, emission point number, GPS location, standard photographic and video imagery, and/or narrative descriptions.
- 6.2 Thermal imagery used to provide additional support for allegations of non-compliance requires review by at least one other OGIC certified TCEQ staff member.