



The World's Sixth Sense™

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Dear Senate Committee,

Good Afternoon. My name is Mark Boccella. I am a Business Development Manager for FLIR Systems and am responsible for the Optical Gas Imaging business in the Americas. I am delighted to be here by invitation of Senator Wyden, as FLIR is a constituent company within the State of Oregon. We are not here in an advocacy role, but instead have been asked to talk about FLIR gas detection technology. Therefore, I do not intend to offer comment pursuant to any current or proposed regulation.

FLIR is a company with long history of partnering with industry and government on critical initiatives. FLIR develops both airborne and ground based thermal sensing platforms that provide US troops with critical night vision and situational awareness. FLIR has been a market leader in this realm for over 50 years.

During that 50 years, we have witnessed Thermal Imaging, or Infrared technology, begin to follow a similar development and cost trajectory as GPS technology. What was once a technology that was large in size, costing hundreds of thousands of dollars, and only available to military personnel, GPS has become a commercial technology with low price points making it available to everyone. And like GPS, low cost IR sensors are being integrated today into smart phones and other handheld devices.

In 2005, FLIR developed a new technology, called Optical Gas Imaging or OGI. OGI allows for easy visualization of otherwise invisible gases, such as Methane and natural gas in general. FLIR manufactures a portable camera that Oil & Gas operators can use to ensure their equipment is not leaking valuable product into the air. With an OGI camera, the operator can simply stand in a central location at a natural gas well site or production facility and scan for what the industry calls super emitters or fat tails. These are essentially large scale gas leaks.

Optical Gas Imaging is a technology that companies currently use to ensure compliance in States that have rules for leak detection of Hydrocarbons or Methane emissions. More importantly, this technology has been widely adopted by companies worldwide as a way for them to affordably meet sustainability objectives.



Over the past decade, FLIR has performed considerable research, gathering information from customers and service providers regarding the effectiveness and affordability of implementing internal OGI programs. From this research, we receive common feedback that the implementation of consistent Leak Detection & Repair programs using OGI technology is a profitable endeavor to pursue, as it maximizes return on investment by keeping more product in the pipe.

This concept has created a strong service provider network, which is part of a larger methane mitigation industry that is growing in the United States. Through this development, we have our own experience adding jobs in the sector.

It is important to note that Optical Gas Imaging is continually evolving. Recently, fixed mounted OGI cameras have been developed offering Continuous Emissions Monitoring and Automated Leak Detection in remote areas. Additionally, there is software technology available today that enhances Optical Gas Imaging by offering real-time leak rate and volume quantification.

In conclusion, FLIR Optical Gas Imaging technology provides a simple method for operators to quickly visualize gas leaks. By integrating this into LDAR programs, many companies are discovering a return on investment by recouping potential lost product from their operations. Moving forward, FLIR is continually investing to develop and produce new, innovative, and more cost-effective gas detection solutions so greater emissions reductions can be realized at a lower cost for our customers.

Thank you for the opportunity to speak today. I am happy to address any questions regarding our technology.

Sincerely,

A handwritten signature in black ink that reads "Mark Boccella". The signature is fluid and cursive, with a long horizontal stroke at the end.

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