

Flame Scanner Failure Bulletin

Safety Note

We recently conducted combustion safety testing at a site that was only about a year old.

The testing found four ultraviolet scanners failed in one concentrated area of an oven.

Upon further investigation, high ambient temperatures were identified as a possible cause. These non-self-checking scanners failed to indicate that a flame was always present. The source of the problem is believed to be a hot air duct near the burners.

Manufacturers usually don't expect them to operate in environments of over 150° F; (specific manufacturers' requirements need to be identified). The life of electronic components and scanners degrades considerably with higher temperatures.

We are now working with the plant to monitor ambient temperatures throughout this oven's gas trains to better understand where future problem areas may exist.

We have identified non-reversing temperature strips that can be applied to components for this purpose. These are relatively inexpensive - about \$5 per component. They can be installed in minutes and then checked in a day or two to see the highest temperature achieved at the surface of a component. This technology is the least expensive approach we've found for monitoring ambient conditions for paint ovens, process ovens, and heat-treat gas train components.

Another valuable practice identified for replacing scanners is as follows:

Scanners that have just been replaced should be tested 24 hours and then again within three days. If they are still functioning after three-days, they will probably have longevity. We have found that some scanners fail in just a couple days and may be on equipment that runs for weeks or months in between shutdowns.



Another important best practice is to record flame signal strengths.

As time moves on, scanner lenses become dirty. This becomes apparent through lower signal strengths. A log showing signal strengths degrading can identify proper cleaning intervals before dirty scanners can create operational and safety problems.

ABOUT US

Honeywell Combustion Safety is a part of Honeywell Thermal Solutions, an industry leader in commercial and industrial combustion solutions. Honeywell Combustion Safety, formerly known as CEC Combustion Safety, has been in business since 1984. With engineers and staff members that sit on Code committees such as NFPA 56, NFPA 85, NFPA 86, and NFPA 87, our inside expertise is integrated within all of our practices, and our global reach ensures that customers around the world are kept safe. Honeywell offers testing and inspections, engineering & upgrades/retrofits, gas hazards management, training, and field services for all industrial facilities and different types of fuel fired equipment. By assisting organizations and their personnel with the safe maintenance and operation of their combustion equipment, Honeywell aims to save lives and prevent explosions while increasing efficiency and reliability of combustion equipment.

For more information

Learn more about Honeywell Combustion Safety, contact info@combustionsafety.com, visit www.combustionsafety.com or contact your Honeywell Sales Engineer.

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