

AMMONIA DETECTOR CALIBRATION

Services

- Factory authorized calibration services
- Nationwide field service
- Many brands of fixed-based & portable ammonia sensors / detectors
- Consultation following IIAR 2-2014 & RAGAGEP
- OSHA PSM compliance & documentation
- Verify audio-visual alarms & alarming to monitored locations
- Verify emergency ventilation initiation
- Check LEL detector shut-off functions
- Make recommendations for ammonia detection system & alarms optimization

INTRODUCTION

SCS Tracer, a Business Unit of SCS Engineers, provides ammonia detector testing, calibration, and/or service on many different brands of fixed-based and portable detectors/sensors. Our field service professionals perform calibration in a wide range of ammonia refrigeration facilities such as dairies, food processors, beverage facilities, ice arenas, ice manufacturing facilities, cold storage warehouses, and in facilities using anhydrous ammonia in processes such as metal/tooling heat treating, and fossil fuel plants utilizing NOx minimization systems.

As an added service, we can provide consultation regarding your ammonia detection system capabilities and inventory based on the ANSI/IIAR 2-2014 Standard and RAGAGEP (Recognized And Generally Accepted Good Engineering Practices.

OSHA PSM COMPLIANCE & DOCUMENTATION

Ammonia gas detectors are prime examples of monitoring devices and sensors covered within the OSHA PSM Standard, section 1910.119(j)(1)(v) Controls (or process equipment as defined in section 1910(j)(1) Application). The OSHA PSM Standard states in Section 1910.119(j)(4)(iv):

"The employer shall document each inspection and test that has been performed on process equipment. The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices."

Upon completion of calibration service(s), SCS Tracer shall electronically provide either a spreadsheet and/or individual sheets documenting the results for each detector. The documentation includes: the detector manufacturer, model & serial number, location, voltage, any physical set points for low or high alarms, calibration PPM (parts per million), alarm status, and the calibration solution or gas that was used. A "Comments" section is provided to document any optional equipment that was added, sensors replaced, and/or any other pertinent information.



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Q & A

1. Do we need ammonia detectors?

Yes! With the advent of IIAR 2-2014, many of the code bodies have adopted it into their compliance statements. Also, some insurance carriers may impose their own requirements to mitigate the risk of life and/or product in facilities, as well. SCS Tracer can assist with any questions regarding your ammonia detection system whether it be an existing or new system.

2. Where do the detectors need to be located?

The current IIAR 2-2014 standard covers every area of an ammonia facility. The prior standards only covered the machine rooms. The key thing to remember is to locate detectors as close to a potential leak source as possible, without being in harms way (i.e. forklifts, etc.), and still be accessible to for maintenance and inspection.

3. Is there a certain height the detectors need to be mounted?

Some of the past recommendations on this subject were as high as possible due to ammonia vapors being lighter than air. This would get the detectors out of harms way but, at times, make them inaccessible to maintain and inspect. However, some of the more recent recommendations are either approximately 5-feet off the floor (in the breathing space) or no higher than the reach of a 6-foot ladder. Currently, the IIAR 2-2014 standard states what was detailed in the second part of the answer for question #2 above.

4. What is the difference between testing and calibration?

Testing checks the detectors for a reaction to either an ammonia test solution or gas. Calibration involves making an adjustment to the ammonia test solution or gas PPM value.

5. How often should the detectors be tested or calibrated?

For testing, a good rule to follow is monthly for areas that have a high concentration of ammonia equipment in the area and every 3-months for all other areas. For calibration, most detector manufacturers recommend every 6-months and a few recommend once per year. Follow the manufacturers guidelines or contact SCS Tracer to assist with any recommendations.

6. What is the advantage of contracting out the calibration versus our own personnel performing this work?

Some of the main advantages of contracting the calibration work out are, but not limited to, fully trained field service personnel dedicated to ammonia detector calibration, service repair, and as a resource for everything to do with an ammonia detection system. This may include staying current with all applicable industry standards and codes, detector manufacturer revisions/updates, calibration certifications, and installation guidelines.

7. What type of documentation do we need to keep on file for testing or calibrating ammonia detectors?

Basically, since each detector is treated as an individual piece of equipment, written documentation that records all the pertinent information (i.e. manufacturer, model & serial #, location, etc.), the date of the testing or calibration, any repairs required, alarm status, and all customer information including the main contact person.

8. Does IIAR 2-2014 provide any guidelines for ammonia detectors?

The standard provides recommendations for what is the minimum requirements in all areas of an ammonia facility. The Scope (17.1) in Chapter 17 Ammonia Detection & Alarms of the IIAR 2-2014 standard is an excellent place to start. The Scope acts as a Table of Contents to find specific information for ammonia detection systems throughout the entirety of the standard. Of course, an even better resource, is to either contact SCS Tracer (see contact information below) for assistance and/or the detector manufacturer.

SCS Tracer, A Business Unit of SCS Engineers, Calibration Contact:

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