Guide To Atmospheric Testing In Confined Spaces

This application note is intended to provide general information and to act as a reminder of the dangers associated with atmospheric hazards in a confined space. It outlines the following:

- What is a confined space?
- Atmospheric hazards found in a confined space.
- RAE Systems products for confined space entry.

What Is a Confined Space?

The confined space entry standard was established by OSHA 29CFR 1910.146 in April of 1993. The standard was developed to provide a defined work plan for confined space entry. Confined space entries are part of a daily routine throughout the industrial workplace.

A Confined Space Is Defined As a Space That:

- Is large enough for an employee to enter and perform work.
- Has limited or restricted means for entry or exit.
- Is not designed for continuous human occupancy.

A Permit-Required Confined Space Is Defined As:
A confined space, plus one of the following:

- Contains, or has a known potential to contain, a hazardous atmosphere.
- Contains material with the potential for engulfment.
- Has an internal design that could entrap or asphyxiate the entrant.
- Contains any recognized safety or health hazard.

Examples of confined spaces:

- Storage tanks and vessels
- Sewers and manholes
- Underground utility vaults
- Agriculture silos
- Railcar tanks
- Marine vessel tanks
- Tunnels
- Grain elevators

Atmospheric Hazards in Confined Spaces

Atmospheric hazards in a confined space are those that expose entrants at risk such as death, entrapment, injury, or acute illness from one or more of the following causes:

Oxygen

An atmospheric oxygen concentration below 19.5% (oxygen deficiency), or above 23% (oxygen enrichment).

RAE Systems Inc.
3775 N. First St., San Jose, CA 95134-1708 USA
Phone: +1.888.723.8823
Email: raesales@raesystems.com
Web Site: www.raesystems.com

Monitoring Confined Spaces for Atmospheric Hazards

RAE Systems Inc.
3775 N. First St., San Jose, CA 95134-1708 USA
Phone: +1.888.723.8823
Email: raesales@raesystems.com
Web Site: www.raesystems.com

RAE Systems Inc.
3775 N. First St., San Jose, CA 95134-1708 USA