CGA
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STANDARD FOR CARBON DIOXIDE MONITORING IN NEAR CONSUMER AND INDUSTRIAL APPLICATIONS

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Carbon Dioxide Committee

NOTE—Appendices A and B (Informative) are for information only.

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1 Introduction

This publication is designed to assist both national standards and code setting organizations and local code authorities in their creation of code requirements associated with carbon dioxide monitoring systems. This publication is also intended for carbon dioxide gas monitoring system designers and installers and can be of value to system users.

The primary focus of this publication is associated with assuring life safety. Although this publication addresses the requirements for an Occupational Safety and Health Administration (OSHA) 8-hour time-weighted average-permissible exposure limit (TWA–PEL) and other regulatory and code requirements, it is the responsibility of the user of the monitoring system to assure compliance with these requirements.

This publication is intended to inform the reader of the potential hazards and related safety concerns associated with carbon dioxide accumulation, concentration, and vapor and/or gas migration not only near the carbon dioxide storage container location but other areas where carbon dioxide can collect due to a leak in the system.

NOTE—Gaseous carbon dioxide can form a visible vapor. For purposes of simplicity, this publication will utilize the word gas when discussing either vapor or gaseous carbon dioxide.

2 Scope

This publication addresses:

- hazards of carbon dioxide in near consumer and industrial applications (the dangerous concentrations, where they can occur and accumulate);
- both fixed carbon dioxide monitoring systems and portable monitoring devices;
- required components of the system and their intended functionality;
- recommendations for installation including locations of the component parts of a carbon dioxide detection monitoring system; and
- proper maintenance and periodic system functional verification.

This publication addresses the general regulatory requirements as presented in existing codes and also addresses communications of carbon dioxide hazards.

Although this publication does not address in detail monitors that are used for other purposes outside of identification of carbon dioxide concentration hazards, Appendix A provides descriptions of these monitors, such as those used for fire suppression, indoor agriculture, and environmental air quality, that do not meet carbon dioxide monitoring system requirements but are the focus of this publication.

This publication does not include specific jurisdictional requirements and the reader is advised to determine the code requirements (e.g., National Fire Protection Association [NFPA], International Fire Code [IFC], National Board Inspection Code [NBIC]) including the specific yearly revision applicable to the jurisdiction where the facility is located.

This publication does not assign responsibilities for various activities that may be included in a contractual agreement or dictated by code or jurisdictional requirements. Although general installation and maintenance of the system is discussed, this publication does not cover the specifics of these activities that are defined by the manufacturer.

In certain applications, the identification and measurement of other gas types can be required (i.e., oxygen deficiency monitoring when nitrogen is used in beer applications). Monitoring for oxygen or other gases aside from carbon dioxide is outside the scope of this publication.