

ASHRAE GUIDELINE

Specifying Direct Digital Control Systems

Approved by the ASHRAE Standards Committee on January 21, 2006, and by the ASHRAE Board of Directors on January 26, 2006.

This guideline is under continuous maintenance by a Standing Guideline Project Committee (SGPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the guideline. The change submittal form, instructions, and deadlines may be obtained in electronic form from the ASHRAE Web site, http://www.ashrae.org, or in paper form from the Manager of Standards. The latest edition of an ASHRAE Guideline may be purchased from ASHRAE Customer Service, 1791 Tullie Circle, NE, Atlanta, GA 30329-2305. E-mail: orders@ashrae.org. Fax: 404-321-5478. Telephone: 404-636-8400 (worldwide), or toll free 1-800-527-4723 (for orders in US and Canada).

©Copyright 2006 ASHRAE, Inc.

ISSN 1049-894X

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

1791 Tullie Circle NE, Atlanta, GA 30329 www.ashrae.org

ASHRAE Standing Guideline Project Committee 13 Cognizant TC: TC 1.4, Control Theory and Application SPLS Liaison: Steven T. Bushby

Steven T. Taylor, Chair*

Chariti A. Young, Vice-Chair *

David L. Brooks* Paul W. Ehrlich* John A. Hendrix, Jr.*

David B. Kahn* James R. Kelley* Christopher L. Mellen* Brian W. Russell John J. Santos* Gideon Shavit* Grant N. Wichenko* James R. Winston*

*Denotes members of voting status when the document was approved for publication

ASHRAE STANDARDS COMMITTEE 2005-2006

Richard D. Hermans, Chair David E. Knebel. Vice-Chair

Donald L. Brandt Steven T. Bushby Paul W. Cabot Hugh F. Crowther Samuel D. Cummings, Jr. Robert G. Doerr

Hakim Elmahdy Roger L. Hedrick John F. Hogan Frank E. Jakob Stephen D. Kennedy

Jay A. Kohler James D. Lutz Merle F. McBride Mark P. Modera Cyrus H. Nasseri Stephen V. Santoro Stephen V. Skalko David R. Tree Jerry W. White, Jr. James E. Woods

William E. Murphy, BOD ExO Ronald E. Jarnagin, CO

Claire B. Ramspeck, Assistant Director of Standards and Special Projects

SPECIAL NOTE

This American National Standard (ANS) is a national voluntary consensus standard developed under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Consensus is defined by the American National Standards Institute (ANSI), of which ASHRAE is a member and which has approved this standard as an ANS, as "substantial agreement reached by directly and materially affected interest categories. This signifies the concurrence of more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that an effort be made toward their resolution." Compliance with this standard is voluntary until and unless a legal jurisdiction makes compliance mandatory through legislation.

ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project

The Manager of Standards of ASHRAE should be contacted for:

- a. interpretation of the contents of this Standard.
- b. participation in the next review of the Standard,
- c. offering constructive criticism for improving the Standard,
- d. permission to reprint portions of the Standard.

DISCLAIMER

ASHRAE uses its best efforts to promulgate Standards and Guidelines for the benefit of the public in light of available information and accepted industry practices. However, ASHRAE does not guarantee, certify, or assure the safety or performance of any products, components, or systems tested, installed, or operated in accordance with ASHRAE's Standards or Guidelines or that any tests conducted under its Standards or Guidelines will be nonhazardous or free from risk.

ASHRAE INDUSTRIAL ADVERTISING POLICY ON STANDARDS

ASHRAE Standards and Guidelines are established to assist industry and the public by offering a uniform method of testing for rating purposes, by suggesting safe practices in designing and installing equipment, by providing proper definitions of this equipment, and by providing other information that may serve to guide the industry. The creation of ASHRAE Standards and Guidelines is determined by the need for them, and conformance to them is completely voluntary.

In referring to this Standard or Guideline and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASHRAE.

Addendum h

(This foreword is not a part of this guideline. It is merely informative and does not contain requirements necessary for conformance to the guideline.)

FOREWORD

This addendum modifies sample specification Section 2.1 (Section 8.1 of the guideline) to allow newer products to be used due to the fast pace of product changes in the industry.

Note: In this addendum, changes to the current guideline are indicated in the text by <u>underlined blue type</u> (for additions) and <u>strikethrough</u> (for deletions) unless the instructions specifically mention some other means of indicating the changes.

Change text as indicated.

8.1 Materials

In general, it is important to specify that the products and materials provided should be new, and part of the manufacturer's current product line, and that they will be supported for at least five years.

Project Considerations: The requirement for the use of new materials and equipment in this article should be reviewed and coordinated with the requirements of Part 3, especially the

article on "Existing Equipment" that is reused in retrofit or renovation projects. This example also requires that the systems installed use technology that has been in-used for at least two years on a minimum of 25 installations. The technology used in this industry changes rapidly, so it may be worthwhile to consider reducing this time periodquantity. The specifier should strive to review the technology offerings available before the specification is out for bid to avoid the embarrassment of specifying systems or equipment that may no longer be available.

2.1 MATERIALS

A. All—Use new products used in this project installation shall be new and currently under manufacture and shall have been applied in similar installations for a minimum of two years that the manufacturer is currently manufacturing and that have been installed in a minimum of 25 installations. This installation shall not be used as a test site for any new products unless explicitly approved by the owner's representative in writing. Spare parts shall be available for at least five years after completion of this contract.

POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the standards and guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive technical committee structure, continue to generate up-to-date standards and guidelines where appropriate and adopt, recommend, and promote those new and revised standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating standards and quidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.