

**FINAL STATEMENT OF REASONS
FOR
PROPOSED BUILDING STANDARDS
OF THE
DIVISION OF THE STATE ARCHITECT - STRUCTURAL SAFETY (DSA-SS)
REGARDING ADOPTION OF THE 2009 UNIFORM MECHANICAL CODE (UMC)
CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 4**

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a final statement of reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS:

(Government Code Section 11346.9(a) (1) requires an update of the information contained in the initial statement of reasons. If update identifies any data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying that was not identified in the initial statement of reasons, the state agency shall comply with Government Code Section 11347.1)

The only revisions to the Initial Statement of Reasons (as shown below) regard the comment received from SMACNA during the 45 day public comment period. This comment resulted in proposed amendments that were issued , which have been coordinated with the BSC and other proposing agencies.

The Division of the State Architect received one comment regarding this proposed rulemaking action during the 45 Day Public Comment Period, and one comment during the subsequent 15 day public comment period. These two comments are addressed below, commencing on page 4.

STATEMENT OF SPECIFIC PURPOSE AND RATIONALE.

DSA proposes to repeal the 2006 edition of the Uniform Mechanical Code (UMC), and adopt the 2009 edition of the Uniform Mechanical Code (published by the International Association of Plumbing and Mechanical Officials) for codification and effectiveness as the 2010 California Mechanical Code. DSA proposes this action in order to comply with state law requiring state agencies to adopt the latest edition model codes within one year of the publication date.

Building standards proposed by DSA-SS for adoption would be applicable to public elementary and secondary schools, community colleges, and state-owned or state-leased essential services buildings.

This proposal will also make effective the 2009 edition of the UMC as the 2010 edition California Mechanical Code, for application by DSA-SS/CC (Division of the State Architect – Structural Safety/Community Colleges) to community colleges, which a community college district may elect to use in lieu of standards promulgated by DSA-SS per Education Code Section 81053.

CHAPTER 1 - Administration

State administrative amendments contained in CMC Chapter 1 are being continued with editorial changes proposed as noted below.

Section 1.1

Renumbering of existing state administrative provisions (Section 101 in the 2007 CMC) is being proposed to accommodate the proposed relocation of UPC chapter 1 (Administration) from Appendix chapter 1 into Division II of CMC chapter 1.

Section 1.9.2 (DSA-SS and DSA-SS/CC Application)

Editorial revisions are proposed for Section 1.9.2 to address the requirements of Education Code Section 81053, which requires DSA to promulgate building standards for application to community colleges as an alternate to the Field Act (i.e. DSA-SS adoption of building standards).

These standards are required to be based on standards applicable to CA State Universities (i.e. BSC-adopted building standards), while retaining amendments necessary to achieve seismic performance levels of the Field Act.

Proposed Section 1.9.2.2 clarifies the DSA-SS/CC acronym, which is proposed to distinguish the alternate building standards adopted by DSA for application to community colleges as prescribed by Ed. Code Sec. 81053.

The DSA-SS/CC acronym is being proposed in the 2009 rulemaking cycle by DSA for use in Title 24 Parts 2, 3, 4 and 5, and would appear in the matrix adoption tables used in each of these Parts of Title 24.

Chapter 2 – Definitions

Section 209 –G-

Definition of galvanized steel has been amended for coordination with the current national standard for duct construction (SMACNA/ANSI 006-2006). Refer to rationale statements in Chapter 6 below, which address the 45 day public comment (see 45 day public comment, commencing on page 3 below).

Chapter 5 – Exhaust Systems

Section 506.2

This section has been amended to reference the current national standard for duct construction (SMACNA/ANSI 006-2006). Refer to rationale statements in Chapter 6 below, which address the 45 day public comment (see 45 day public comment, commencing on page 3 below).

Chapter 6 – Duct Systems

Sections 601.3, 602.1, 602.3, 602.4, 602.5, 602.6, 603.0, 604.2, 604.5, 605.0, Tables 6-1 through 6-10.

These sections have been amended for coordination with the current national standard for duct construction (SMACNA/ANSI 006-2006), which is being adopted by reference.

The 2009 UMC refers to an outdated SMACNA duct construction standard (1995 version), and includes tables, and an Appendix extracted from this now outdated standard. SMACNA updated this standard in 2006, and it is now ANSI approved, entitled "ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible."

However, the updated standard was published after the deadline for submitting code proposals for the 2009 UMC, resulting in its omission. IAPMO is in the process of updating this reference, but will not complete this process prior to the adoption of the 2010 California Mechanical Code.

The outdated reference, out of date tables and Appendix create conflict between code enforcement agencies, contractors and design engineering firms. HVAC contractors and design firms are currently using the 2006 version of SMACNA in their system duct design. Moreover, the 1995 version *is no longer published or available*.

In addition, the 2009 UMC, Chapter 17, Standards Table 17-1 only lists the updated 2006 SMACNA standard and does not list the outdated 1995 version referenced in the text of the code. This creates both confusion and a potential for conflict. The data within the SMACNA standard has been tested and promulgated through a consensus based process and should only be used in whole. Continued use of outdated partial extracts in the UMC will create confusion and inconsistency.

Finally, the ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible are already referenced in the other major industry HVAC documents, including:

- ASHRAE Standard 62.1
- ASHRAE Fundamentals Handbook
- National Fire Protection Association 90A, 90B, 96
- US Army Corp of Engineers
- International Mechanical Code
- International Energy Conservation Code

By adopting the 2006 SMACNA HVAC Duct Construction Standards into the 2010 California Mechanical Code, the State will ensure consistency with these other industry documents. In addition, much of the Federal stimulus money for energy efficiency requires the use of the most updated energy efficiency standards. The use of the outdated 1995 SMACNA HVAC Duct Construction Standards could potentially conflict with some of these requirements.

The proposal does the following:

- Moves the definition for the scope of this section that was contained in Appendix A (A6.201) to the body of the code in Section 601.0.
- Amends Section 602.1 to replace the references to the outdated extracts of the 1995 SMACNA HVAC Duct Construction Standards with a reference to the 2006 SMACNA HVAC Duct Construction Standards.
- Updates the Standards listed in Chapter 17. 2009 UMC incorrectly identifies the 2006 SMACNA HVAC Duct Construction Standards as a "2005" standard.
- Eliminates Tables 6.1 through 6.10, which contain outdated extracts from the 1995 SMACNA HVAC Duct Construction Standards.
- Eliminates Appendix A, which contains simplified and outdated extracts from the 1995 SMACNA HVAC Duct Construction Standards. (Except for Section 6.201 - Scope, which will be moved to the body of the code in Section 601.0).

By simply referencing the 2006 ANSI/SMACNA HVAC Duct Construction Standards and not replacing the deleted tables and Appendix A, the Code will be simplified and will eliminate confusion and conflict. The new standards are more complex and involved than the 1995 standards. As a result, including selected or simplified extracts within the code may lead to inaccuracies and misapplication of the standard.

Chapter 17 – Standards

This chapter has been amended to reference the current national standard for duct construction (SMACNA/ANSI 006-2006), which replace the UMC standards 2-2, 6-2 and 6-5 in Appendix A. Refer to rationale statements in Chapter 6 above, which address the 45 day public comment (see 45 day public comment, commencing on page 3 below).

Appendix A

This appendix is not adopted, as the current national standard for duct construction (SMACNA/ANSI 006-2006) is being adopted by reference pursuant to proposed amendments in chapter 6 (see rationale stated above for chapter 6).

TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS.

None required, as Section 18928 of the Health & Safety Code mandates this proposed action, and no new amendments are being proposed.

CONSIDERATION OF REASONABLE ALTERNATIVES.

The Division of the State Architect has not considered any reasonable alternatives to the proposed action, as this action is required by law, and no new amendments are being proposed.

REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.

The Division of the State Architect has not identified any reasonable alternatives to the proposed action, and no potential adverse impacts on small business are expected as a result of this proposed action.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESS.

The Division of the State Architect has no evidence indicating any potential significant adverse impact on business with regard to the proposed action.

DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS.

The regulations do not duplicate or conflict with federal regulations.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS.

(Pursuant to Government Code Section 11346.9(a) (2), if the determination as to whether the proposed action would impose a mandate, the agency shall state whether the mandate is reimbursable pursuant to Part 7 of Division 4. If the agency finds that the mandate is not reimbursable, it shall state the reasons for the finding(s).)

The Division of the State Architect has determined that the proposed regulatory action does not impose a mandate on

local agencies or school districts.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

(Government Code Section 11346.9(a) (3))

45 DAY PUBLIC COMMENT PERIOD – COMMENT RECEIVED BY DSA:

Commenter: Erik S. Emblem and SMACNA (Sheet Metal and Air Conditioning Contractor's National Association)

Subject: Adoption of the current national standards for HVAC duct construction (SMACNA/ANSI 006-2006)

Comment: The California Sheet Metal and Air Conditioning Contractor's National Association (SMACNA) respectfully requests that the Division of the State Architect join the CBSC, HCD, OSHPD, and SFM in adopting the amendments to the 2009 UMC that incorporate the updated SMACNA/ANSI 006-2006 Duct Construction Standards, and repeal outdated extracts from the 1995 edition SMACNA duct construction standard. This change would ensure consistency throughout the CMC and will reduce the potential for confusion in the California building industry.

The 2009 UMC refers to an outdated SMACNA duct construction standard (1995 version), and includes tables, and an Appendix extracted from this now outdated standard. SMACNA updated this standard in 2006, and it is now ANSI approved, entitled "ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible." However, the updated standard was published after the deadline for submitting code proposals for the 2009 UMC, resulting in its omission. IAPMO is of in the process of updating this reference, but will not complete this process prior to the adoption of the 2010 California Mechanical Code.

The outdated reference, out of date tables and Appendix create conflict between code enforcement agencies, contractors and design engineering firms. HVAC contractors and design firms are currently using the 2006 version of SMACNA in their system duct design. Moreover, the 1995 version *is no longer published or available*

In addition, the 2009 UMC, Chapter 17, Standards Table 17-1 only lists the updated 2006 SMACNA standard and does not list the outdated 1995 version referenced in the text of the code. This creates both confusion and a potential for conflict. The data within the SMACNA standard has been tested and promulgated through a consensus based process and should only be used in whole. Continued use of outdated partial extracts in the UMC will create confusion and inconsistency.

Finally, the ANSI/SMACNA 006-2006 HVAC Duct Construction Standards - Metal and Flexible are already referenced in the other major industry HVAC documents, including:

- ASHRAE Standard 62.1
- ASHRAE Fundamentals Handbook
- National Fire Protection Association 90A, 90B, 96
- US Army Corp of Engineers
- International Mechanical Code
- International Energy Conservation Code

By adopting the 2006 SMACNA HVAC Duct Construction Standards into the 2010 California Mechanical Code, the State will ensure consistency with these other industry documents. In addition, much of the Federal stimulus money for energy efficiency requires the use of the most updated energy efficiency standards. The use of the outdated 1995 SMACNA HVAC Duct Construction Standards could potentially conflict with some of these requirements.

The proposal does the following:

- Moves the definition for the scope of this section that was contained in Appendix A (A6.201) to the body of the code in Section 601.0.
- Amends Section 602.1 to replace the references to the outdated extracts of the 1995 SMACNA HVAC Duct Construction Standards with a reference to the 2006 SMACNA HVAC Duct Construction Standards.
- Updates the Standards listed in Chapter 17. 2009 UMC incorrectly identifies the 2006 SMACNA HVAC Duct Construction Standards as a "2005" standard.
- Eliminates Tables 6.1 through 6.10, which contain outdated extracts from the 1995 SMACNA HVAC Duct Construction Standards.

- Eliminates Appendix A, which contains simplified and outdated extracts from the 1995 SMACNA HVAC Duct Construction Standards. (Except for Section 6.201 - Scope, which will be moved to the body of the code in Section 601.0).

By simply referencing the 2006 ANSI/SMACNA HVAC Duct Construction Standards and not replacing the deleted tables and Appendix A, the Code will be simplified and will eliminate confusion and conflict. The new standards are more complex and involved than the 1995 standards. As a result, including selected or simplified extracts within the code may lead to inaccuracies and misapplication of the standard.

DSA Response: DSA concurs with the comments, and has proposed the adoption of SNACNA/ANSI 006-2006 as indicated in the 15 Day Express Terms. These express terms were coordinated with the BSC and other proposing agencies.

15 DAY PUBLIC COMMENT PERIOD – COMMENT RECEIVED BY DSA:

Commenter: Martin D. Cooper

Subject: Adoption of SMACNA/ANSI 006-2006 Duct Construction Standards (subject of the 15 day Express Terms)

Comment (shown verbatim): The proposed changes within the 15 day express terms should be incorporated into California Chapter 1 Part 1 provisions only under the authority of DSA-SS. The California matrix adoption tables should be formatted in the 2010 CMC to include only DSA-SS. The California Building Standards Commission and Department of Housing and Community Development should adopt the proposed amendments from the 45 day express terms only.

The cost to the public would be unreasonable to expect a Mechanical Engineer to have to design to the SMACNA/ANSI 006-2006 standards every modification or addition to a HVAC system in every occupancy group.

DSA Response: DSA's jurisdiction (i.e. application of standards adopted by DSA-SS) includes public schools, community colleges and state essential services buildings. The mechanical system designs (including specification of duct construction requirements) are almost always prepared by a mechanical engineer (typically as a consultant to the project architect) for these applications. The mechanical engineer prepares the HVAC system layout and sizing, as well as the determination of pressure class of the ductwork. The mechanical contractor uses that information to fabricate and install the HVAC ductwork. The cost of construction is not increased for projects under DSA-SS jurisdiction, as the SMACNA/ANSI 006-2006 standard is the current recognized and followed standard in the industry.

DSA does not have the authority to respond to the comment regarding the BSC and HCD adoption of CMC amendments, as this request is not within the scope of the 15 day express terms (which are not applicable to BSC and HCD jurisdiction and regulated occupancies).

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS.

(Government Code Section 11346.9(a) (4))

The Division of the State Architect has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective and less burdensome to affected private persons than the adopted regulations.

REJECTED PROPOSED ALTERNATIVES THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES:

(Government Code Section 11346.9(a) (5))

There are no rejected proposed alternatives to identify. This proposal will not have an adverse economic impact on small businesses.