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1. INTRODUCTION

In this edition appendix material appears in the main body of the document; however, it remains advisory only.

1.1 General

The care environment is constituted by those features in a built health care entity that are created, structured, and maintained to support quality health care. As patients and their families have become more involved in the course of care, facilities need to respond to the changing requirements for accommodations. The health care environment should enhance the dignity of the patient through features that permit privacy and confidentiality.

Stress can be a major detriment to the course of a patient's care. The facility should be designed to reduce patient, family, and staff stress wherever possible. Research- and evidence-based materials are available to support these goals and should be referred to during design.

As technology changes, flexibility is in the best interests of quality care. As health care economics apply pressure to management, design should make every effort to enhance the performance, productivity, and satisfaction of the staff in order to promote a safe environment of care. Creativity should be encouraged in the design process to enhance the environment of care.

1.1.A.

This document contains information intended as minimum standards for constructing and equipping new health care facility projects. For brevity and convenience these standards are presented in "code language." Use of words such as *shall* is mandatory only where applied by an adopting authority having jurisdiction. Insofar as practical, these standards relate to desired performance or results or both. Details of construction and engineering are assumed to be part of good design practice and local building regulations. Design and construction shall conform to the requirements of these Guidelines. Requirements set forth in these Guidelines shall be considered as minimum. For aspects of design and construction not included in these Guidelines, local governing building codes shall apply. Where there is no local governing building code, the prevailing model code used within the geographic area is hereby specified for all requirements not otherwise specified in these Guidelines. (See Section 1.54 for wind and seismic local requirements.)

Where ASCE 7-93 is referenced, similar provisions in the model building code are considered substantially equivalent.

An asterisk (*) preceding a paragraph number indicates that explanatory or educational material can be found in Appendix material found at the bottom of the page.

1.1.B.

This document covers health facilities common to communities in ~~this country~~ the United States. Facilities with unique services will require special consideration. However, sections herein may be applicable for parts of any facility and may be used where appropriate.

1.1.C.

These Guidelines are not intended to restrict innovations and improvements in design or construction techniques. Accordingly, authorities adopting these standards as codes may approve plans and specifications that contain deviations if it is determined that the respective intent or objective has been met.

Final implementation may be subject to requirements of the authority having jurisdiction.

1.1.D.

Some projects may be subject to the regulations of several different programs, including those of state, local, and federal authorities. While every effort has been made for coordination, individual project requirements should be verified, as appropriate. Should requirements be conflicting or contradictory, the authority having primary responsibility for resolution should be consulted.

1.1.E.

The ~~Health Care Financing Administration~~ Centers for Medicare and Medicaid Services, which is responsible for Medicare and Medicaid reimbursement, has adopted the National Fire Protection Association 101 Life Safety Code (NFPA 101). Facilities participating in Medicare and Medicaid programs shall comply with that code.

1.1.F.

The health care provider shall supply for each project a functional program for the facility that describes the purpose of the project, the projected demand or utilization, staffing patterns, departmental relationships, space requirements, and other basic information relating to fulfillment of the institution's objectives. The functional program shall include a description of those services necessary for the complete operation of the facility. The program shall address the size and function of each space and any special design features. Include the projected occupant load, numbers of staff, patients, residents, visitors, and vendors. In treatment areas, describe the types and projected numbers of procedures. Describe the circulation patterns for staff, patients or residents, and the public. Describe also the circulation patterns for equipment and clean and soiled materials. Address equipment requirements; describe building service equipment and fixed and movable equipment. Where the circulation patterns are a function of asepsis control requirements, note these features. The program shall use the same names for spaces and departments as used in the Guidelines. If acronyms are used, they shall be clearly defined. The functional program shall address the potential future expansion that may be needed to accommodate increased demand. The approved functional program shall be made available for use in the development of project design and construction documents. The functional program shall be retained by the facility with the other design data to facilitate future alterations, additions, and program changes.

1.2 Interpretations of Requirements

Although the ultimate interpretation of information contained in this document is the responsibility of the adopting authority having jurisdiction, where applicable, the value of advisory commentary has been recognized. The interpretation of a specific standard contained in these Guidelines may be requested from the Guidelines Steering Committee with a detailed request. The resulting interpretation is intended to provide clarification, a summary of any background and previous discussion if appropriate, and a rationale for the interpretation rendered. It is understood that any such interpretation is advisory in nature, intended to assist the user and adopting authority having jurisdiction to maximize the value of these Guidelines. Requests for interpretation should be submitted to the Steering Committee through the American Institute of Architects, using the form at the back of the book, or by including the information requested on the form in an e-mail message to *healthcareguidelines@aia.org*.

1.3 Renovation

1.3.A.

Where renovation or replacement work is done within an existing facility, all new work or additions, or both, shall comply, insofar as practical, with applicable sections of these Guidelines and with appropriate

parts of NFPA 101, covering New Health Care Occupancies. Where major structural elements make total compliance impractical or impossible, exceptions should be considered. This does not guarantee that an exception will be granted, but does attempt to minimize restrictions on those improvements where total compliance would not substantially improve safety, but would create an unreasonable hardship. These standards should not be construed as prohibiting a single phase of improvement. (For example, a facility may plan to replace a flammable ceiling with noncombustible material but lack funds to do other corrective work.) However, they are not intended as an encouragement to ignore deficiencies when resources are available to correct life-threatening problems. (See Section 1.6.C.)

1.3.B.

When construction is complete, the facility shall satisfy functional requirements for the appropriate classification (general hospital, skilled nursing facility, etc.) in an environment that will provide acceptable care and safety to all occupants.

1.3.C.

In renovation projects and those making additions to existing facilities, only that portion of the total facility affected by the project shall comply with applicable sections of the Guidelines and with appropriate parts of NFPA 101 covering New Health Care Occupancies.

1.3.D.

Those existing portions of the facility that are not included in the renovation but that are essential to the functioning of the complete facility, as well as existing building areas that receive less than substantial amounts of new work, shall, at a minimum, comply with that section of NFPA 101 for Existing Health Care Occupancies.

1.3.E.

Conversion to other appropriate use or replacement should be considered when cost prohibits compliance with acceptable standards.

1.3.F.

When a building is converted from one occupancy to another, it shall comply with the new occupancy requirements. For purpose of life safety, a conversion from a hospital to a nursing facility or vice versa is not considered a change in occupancy.

1.3.G.

When parts of an existing facility essential to continued overall facility operation cannot comply with particular standards, those standards may be temporarily waived if patient care and safety are not jeopardized.

1.3.H.

Renovations, including new additions, shall not diminish the safety level that existed prior to the start of the work; however, safety in excess of that required for new facilities is not required.

1.3.I.

Nothing in these Guidelines shall be construed as restrictive to a facility that chooses to do work or alterations as part of a phased long-range safety improvement plan. It is emphasized that all hazards to life and safety and all areas of noncompliance with applicable codes and regulations should be corrected as soon as possible in accordance with a plan of correction.

1.4 Design Standards for the Disabled

The Americans with Disabilities Act (ADA) became law in 1990. This law extends comprehensive civil rights protection to individuals with disabilities. Under Titles II and III of the ADA, public, private, and public service hospitals and other health care facilities will need to comply with the *Accessibility Guidelines for Buildings and Facilities* (ADAAG) for alterations and new construction. The *Uniform Federal Accessibility Standards* (UFAS) also provides criteria for the disabled. Implementation of UFAS and ADAAG for federal facilities is handled in the following ways:

- Compliance with UFAS
- Compliance with ADAAG
- Compliance with a combination of UFAS and ADAAG using the most stringent criteria

Individual federal agencies will provide direction on applicable criteria to be used for the design of federal facilities.

Also available for use in providing quality design for the disabled is the American National Standards Institute (ANSI) A117.1 *American National Standard for Accessible and Usable Buildings and Facilities*.

State and local standards for accessibility and usability may be more stringent than ADA, UFAS, or ANSI A117.1. Designers and owners, therefore, must assume responsibility for verification of all applicable requirements.

It shall be recognized, however, that the users of hospitals and health care facilities often have very different accessibility needs from the typical adult individual with disabilities addressed by the model standards and guidelines mentioned above. Hospital patients, and especially nursing facility residents, due to their stature, reach, and strength characteristics, typically require the assistance of caregivers during transfer maneuvers. Many prescriptive requirements of model accessibility standards place both older persons and caregivers at greater risk of injury than do facilities that would be considered noncompliant. Flexibility may be permitted for the use of assistive configurations that provide considerations for transfer assistance.

*1.5 Provisions for Disasters

In locations where there is recognized potential for hurricanes, tornadoes, flooding, earthquake, or other regional disasters, planning and design shall consider the need to protect the life safety of all health care facility occupants and the potential need for continuing services following such a disaster.

When consistent with their functional program and disaster planning, acute care facilities with emergency services can serve as receiving, triage and initial treatment centers in the event of nuclear, biological, or chemical (NBC) exposure. These facilities shall designate specific area(s) for these functions.

*1.5.A. Wind- and Earthquake-Resistant Design for New Buildings

Facilities shall be designed to meet the requirements of the building codes specified in Section 1.1.A provided these requirements are substantially equivalent to ASCE 7-93. Design shall meet the requirements of ASCE 7-93.

The following model codes and provisions are essentially equivalent to the ASCE 7-93 requirements:

- 1988 NEHRP Provisions
- ~~1991 ICBO Uniform Building Code~~
- ~~1992 Supplement to the BOCA National Building Code~~
- ~~1992 Amendments to the SBCC Standard Building Code~~

1.5.A1. For those facilities that must remain operational in the aftermath of a disaster, special design is required to protect systems and essential building services such as power, water, medical gas systems, and, in certain areas, air conditioning. In addition, special consideration must be given to the likelihood of temporary loss of externally supplied power, gas, water, and communications.

1.5.A2. The owner shall provide special inspection during construction of seismic systems described in Section A.9.1.6.2 and testing described in Section A.9.1.6.3 of ASCE 7-93.

1.5.A3. Roof coverings and mechanical equipment shall be securely fastened or ballasted to the supporting roof construction and shall provide weather protection for the building at the roof. Roof covering shall be applied on clean and dry decks in accordance with the manufacturer's instructions, these Guidelines, and related references. In addition to the wind force design and construction requirements specified, particular attention shall be given to roofing, entryways, glazing, and flashing design to minimize uplift, impact damage, and other damage that could seriously impair functioning of the building. If ballast is used it shall be designed so as not to become a projectile.

1.5.B.

Flood Protection, Executive Order No. 11988, was issued to minimize financial loss from flood damage to facilities constructed with federal assistance. In accordance with that order, possible flood effects shall be considered when selecting and developing the site. Insofar as possible, new facilities shall *not* be located on designated floodplains. Where this is unavoidable, consult the Corps of Engineers regional office for the latest applicable regulations pertaining to flood insurance and protection measures that may be required.

1.5.C.

Should normal operations be disrupted, the facility shall provide adequate storage capacity for, or a functional program contingency plan to obtain, the following supplies: food, sterile supplies, pharmacy supplies, linen, and water for sanitation. Such storage capacity or plans shall be sufficient for at least four continuous days of operation.

1.6 National Standards for the Protection of Certain Health Information

The Health Insurance Portability and Accountability Act (HIPAA) became law in 1996. HIPAA consists of three major parts:

- Privacy Rule
- Transaction and Code Sets
- Security Rule

The U.S. Department of Health and Human Services (HHS) issued the Privacy Rule to implement the requirement of HIPAA. Within HHS, the Office of Civil Rights (OCR) has the responsibility for enforcement of the HIPAA regulations. HIPAA does not preempt or override laws that grant individuals even greater privacy protection. Additionally, covered entities are free to retain or adopt more protective policies or practices.

HHS may provide direction and clarification on the Privacy Rule and Security Rule. HIPAA provides for civil and even criminal penalties for violations.

Ultimately, designers and owners must assume responsibility in developing policies and procedures for verification of all applicable requirements that appropriately limit access to personal health information without sacrificing the quality of health care.

1.67 Codes and Standards

1.67.A.

Every health care facility shall provide and maintain a safe environment for patients, personnel, and the public.

1.67.B.

References made in these Guidelines to appropriate model codes and standards do not, generally, duplicate wording of the referenced codes.

NFPA's standards, especially the NFPA 101, are the basic codes of reference; but other codes and/or standards may be included as part of these standards. In the absence of state or local requirements, the project shall comply with approved nationally recognized building codes except as modified in the latest edition of the NFPA 101, and/or herein.

Referenced code material is contained in the issue current at the time of this publication. The latest revision of code material is usually a clarification of intent and/or general improvement in safety concepts and may be used as an explanatory document for earlier code editions. Questions of applicability should be addressed as the need occurs. The actual version of a code adopted by a jurisdiction may be different. Confirm the version adopted in a specific area with the authority having jurisdiction.

***1.67.C. Equivalency**

Insofar as practical, these minimum standards have been established to obtain a desired performance result. Prescriptive limitations, when given, such as exact minimum dimensions or quantities, describe a condition that is commonly recognized as a practical standard for normal operation. For example, reference to a room area is for patient, equipment, and staff activities; this avoids the need for complex descriptions of procedures for appropriate functional planning.

National Fire Protection Association (NFPA) document 101A is a technical standard for evaluating equivalency to certain Life Safety Code 101 requirements. The Fire Safety Evaluation System (FSES) has become widely recognized as a method for establishing a safety level equivalent to the Life Safety Code. It may be useful for evaluating *existing* facilities that will be affected by renovation. For purposes of these Guidelines, the FSES is not intended to be used for *new* construction.

1.67.D. English/Metric Measurements

Where measurements are a part of this document, English units are given as the basic standards, with

equivalent metric units in parentheses. Either method shall be consistently used throughout a given design.

1.67.E List of Referenced Codes and Standards

Codes and standards that have been referenced in whole or in part in the various sections of this document are listed below. Names and addresses of the originators are also included for information. The issues available at the time of publication are used. Later issues will normally be acceptable where requirements for function and safety are not reduced; however, editions of different dates may have portions renumbered or retitled. Care must be taken to ensure that appropriate sections are used.

Access Board (an independent federal agency). *Uniform Federal Accessibility Standard (UFAS)*. (<http://www.access-board.gov/ufas/ufas-html/ufas.htm>)

American Society of Civil Engineers. ASCE 7-98 (formerly ANSI A58.1). *Minimum Design Loads for Buildings and Other Structures*, ~~ASCE 7-98~~. (<http://www.pubs.asce.org/BOOKdisplay.cgi?9990609>)

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). (<http://www.ashrae.org>)

Standard 52.1-1992, *Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter*.

[Standard 52.2, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size.](#)

[Standard 154, Ventilation for Commercial Cooking Operations.](#)

[Standard 55, Thermal Environmental Conditions for Human Occupancy.](#)

[Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings.](#)

[ASHRAE Handbook - Fundamentals.](#)

Standard 62-1999, *Ventilation for Acceptable Indoor Air Quality*.
1999 ASHRAE Handbook - HVAC Applications.

American Society of Mechanical Engineers (ASME).

(<http://www.asme.org/ens/departments/Safety/Public/A17/> or www.ansi.org)

ANSI/ASME A17.1, *Safety Code for Elevators and Escalators*, 1999.

ANSI/ASME A17.3, *Safety Code for Existing Elevators and Escalators*.

[American Water Works Association \(AWWA\) \(www.awwa.org\)](http://www.awwa.org)

[Recommended Practice for Backflow Prevention and Cross-connection Control, 2004.](#)

Americans with Disabilities Act. U.S. Department of Justice ADA Information Line, 1-800-514-0301 or 1-800-514-0383 (TDD). (<http://www.usdoj.gov/disabilities.htm>)

Association for the Advancement of Medical Instrumentation. ANSI/AAMI RD5:19926.2, 2001, ~~Hemodialysis systems~~ [Water Treatment Equipment for Hemodialysis Applications](#). (www.aami.org)

~~Building Officials and Code Administrators International. (www.bocai.org)~~

~~[The BOCA Basic Building Code.](http://www.bocai.org/order_building_res.htm)~~ (http://www.bocai.org/order_building_res.htm)

~~[The BOCA Basic Plumbing Code.](http://www.bocai.org/order_plumbing.htm)~~ (http://www.bocai.org/order_plumbing.htm)

~~[The BOCA National Building Code, 1999](http://www.bocai.org/intecode.htm)~~ (<http://www.bocai.org/intecode.htm>)

Building Seismic Safety Council (National Institute of Building Sciences). *NEHRP (National Earthquake Hazards Reduction Program) Recommended Provisions for Seismic Regulations for New Buildings*,

1997 ed., and “Proposals for Change to the 1997 *NEHRP Recommended Provisions* for Issuance as the 2000 Provisions.” (<http://www.bssconline.org>)

Centers for Disease Control and Prevention (CDC). (www.cdc.gov)

“Guidelines for Preventing the Transmission of *Mycobacterium tuberculosis* in Health-Care Facilities, 1994.” *Morbidity and Mortality Weekly Report (MMWR)* 1994;43 (No. RR-13).

(<http://www.cdc.gov/epe/mmwr/preview/mmwrhtml/00035909.htm>)

“Guidelines for Prevention of Nosocomial Pneumonia, 1994.” *American Journal of Infection Control* (22:247-292) (http://www.cdc.gov/ncidod/diseases/hip/pneumonia/pneu_mmw.htm)

College of American Pathologists. *Medical Laboratory Planning and Design*, 1985. (1-800-323-4040 or www.cap.org)

Compressed Gas Association (CGA). Publication #E-10, *Maintenance of Medical Gas and Vacuum Systems in Health-Care Facilities*, 1997

(http://www.cganet.com/Pubs/CGA_Publications_for_sale.html)

Department of Defense. MIL STD 282, *Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance-Test Methods*.

(http://astimage.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=35676)

Food and Drug Administration. *FDA Food Code*, 1999. (<http://vm.cfsan.fda.gov/~dms/foodcode.html>)

Hydronics Institute Division of the Gas Appliance Manufacturers Association. *I-B-R Ratings for Boilers, Baseboard Radiation and Finned Tube (Commercial)*, January 1, 2000 ed.

(<http://www.gamanet.org/publist/hydroordr.htm>)

Illuminating Engineering Society of North America (IESNA). (<http://www.iesna.org>)

~~IESNA Publication HB-99, *IESNA Lighting Handbook, 9th ed.*~~

~~ANSI/IESNA RP-28-01, *Lighting and the Visual Environment for Senior Living.*~~

IESNA Publication RP-29-95, *Lighting for Hospitals and Health Care Facilities ANSI Approved.*

IESNA Publication RP-28-98, *Lighting and the Visual Environment for Senior Living.*

Industrial Safety Equipment Association (ISEA). (www.ansi.org)

ANSI-Z-358-1998, *Emergency Eyewash and Shower Equipment.*

International Code Council (ICC) (<http://www.iccsafe.org>)

International Building Code

~~International Conference of Building Officials (ICBO). *1997 Uniform Building Code.*~~

~~(<http://www.icbo.org/wsnsa.dll/prodshow.html?prodid=097S97&stateInfo=kfdtaUCraDxKaifi2857|2>)~~

National Council on Radiation Protection and Measurements (NCRP).

(<http://www.ncrp.com/ncrprpts.html>)

Report #49, *Structural Shielding Design and Evaluation for Medical Use of X Rays and Gamma Rays of Energies up to 10 MeV*, 1976.

Report #51, *Radiation Protection Design Guidelines for 0.1-100 MeV Particle Accelerator Facilities*, 1977.

Report #102, *Medical X-Ray, Electron Beam and Gamma-Ray Protection for Energies Up to 50*

MeV (Equipment Design, Performance and Use), 1989.

National Fire Protection Association. (<http://www.nfpa.org/Codes/index.html>)

NFPA 20, *Standard for the Installation of Stationary Fire Pumps for Fire Protection*, 1999.

NFPA 70, *National Electrical Code Looseleaf*, 1999.

NFPA 80, *Standard for Fire Door, Fire Windows*, 1999.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*, 1999.

NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*, 1999.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 1998.

NFPA 99, *Standard for Health Care Facilities*, 1999.

NFPA 101, *Life Safety Code*, 2000.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 1999.

NFPA 253, *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, 2000.

NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*, 2000.

NFPA 258, *Standard Research Test Method of Determining Smoke Generation of Solid Materials*, 1997.

NFPA 418, *Standard for Heliports*, 1995.

NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*, 1999.

NFPA 801, *Standard for Fire Protection for Facilities Handling Radioactive Materials*, 1998.

Nuclear Regulatory Commission (NRC). Code of Federal Regulation (CFR) Title 10—Energy, Chapter 1—Nuclear Regulatory Commission (<http://www.nrc.gov/NRC/CFR/index.html>)

Part 20 (10 CFR 20), Standards for Protection Against Radiation.

Part 35 (10 CFR 35), Medical Use of Byproduct Material.

Occupational Safety and Health Administration, U.S. Department of Labor. Code of Federal Regulations (CFR) Title 29—OSHA Regulations. (www.osha.org)

Part 1910 (29 CFR 1910), Occupational Safety and Health Standards. (http://www.osha-slc.gov/OshStd_toc/OSHA_Std_toc_1910.html)

Plumbing-Heating-Cooling Contractors—National Association (PHCC—National Association). *National Standard Plumbing Code*. (<http://www.naphcc.org/>)

~~Southern Building Code Congress International. *Standard Building Code—1997-99 Significant Code Changes*. (<http://sbcci.org/Codes/codes.htm>)~~

1.6.F Referenced Codes and Standards

Some of the codes and standards used in this publication are listed herein. Users of these publications are encouraged to use them for further information as may be necessary to achieve the final product.

References to federal publications may be obtained from the Government Printing Office in Washington, D.C.

Air Conditioning and Refrigeration Institute
4301 North Fairfax Drive, Suite 425
Arlington, VA 22203

Tel. 703-524-8800
Web: <http://www.ari.org>

Architectural and Transportation Barriers Compliance Board
Office of Technical and Information Services
1331 F St., N.W., Suite 1000
Washington, DC 20004-1111
Tel. 202-272-5434, 1-800-872-2253
Web: <http://www.access-board.gov>

Americans with Disabilities Act
U.S. Department of Justice
950 Pennsylvania Ave., N.W.
Washington, DC 20530-0001
Tel. 1-800-514-0301
Web: <http://www.usdoj.gov/crt/ada/adahom1.htm>

American National Standards Institute (ANSI)
11 West 42nd Street
New York, NY 10036
Tel. 212-642-4900
Web: <http://www.ansi.org>

American Society of Heating, Refrigerating and Air-Conditioning Engineers
1791 Tullie Circle, N.E.
Atlanta, GA 30329
Tel. 1-800-527-4723, 404-636-8400
Web: <http://www.ashrae.org>

American Society of Civil Engineers
1801 Alexander Bell Drive
Reston, VA 20191-4400
Tel. 1-800-548-2723, 703-295-6300
Web: <http://www.asce.org>

American Society of Mechanical Engineers (ASME)
Three Park Avenue
New York, NY 10016-5990
Tel. 1-800-THE-ASME
Web: <http://www.asme.org>

American Society for Testing and Materials
100 Barr Harbor Drive
West Conshocken, PA 19428-2959
Tel. 610-832-9585
Web: <http://www.astm.org>

Association for the Advancement of Medical Instrumentation
1110 N. Glebe Road, Suite 220

Arlington, VA 22201-5762
Tel. 1-800-332-2264, 703-525-4890
Web: <http://www.aami.org>

~~Building Officials and Code Administrators International, Inc. (BOCA)
4051 Flossmoor Road
Country Club Hills, IL 60478-5795
Tel. 708-799-2300
Web: <http://www.bocai.org>~~

Building Seismic Safety Council
National Institute of Building Sciences
1090 Vermont Avenue, N.W., Suite 700
Washington, DC 20005-4905
Tel. 202-289-7800
Web: <http://www.bssconline.org>

Centers for Disease Control and Prevention
Hospital Infection Control Practices (HICPAC)
Center for Infection Control
1600 Clifton Road
Atlanta, GA 30333
Tel. 404-639-3311, 1-800-311-3435
Web: <http://www.cdc.gov>

College of American Pathologists
325 Waukegan Road
Northfield, IL 60093
Tel. 1-800-323-4040, 847-832-7000 (in IL)
Web: <http://www.cap.org>

Compressed Gas Association
1725 Jefferson Davis Highway, Suite 1004
Arlington, VA 22202
Tel. 703-412-0900
Web: <http://www.cganet.com>

Food and Drug Administration (FDA)
Center for Food Safety and Applied Nutrition
200 C Street, S.W.
Washington, DC 20204
Tel. 1-888-463-6332
Web: <http://vm.cfsan.fda.gov>

General Services Administration
National Capital Region
7th and D Streets, S.W.
Washington, DC 20407
Web: <http://www.gsa.gov>

Hydronics Institute (Division of Gas Appliance Manufacturer Association (GAMA))
35 Russo Place, P.O. Box 218
Berkeley Heights, NJ 07922
Tel. 908-464-8200 Web: <http://www.gamanet.org>

Illuminating Engineering Society of North America (IESNA)
120 Wall Street, Floor 17
New York, NY 10005
Tel. 212-248-5000
Web: <http://www.iesna.org>

International Code Council
5203 Leesburg Pike, Suite 600
Falls Church, VA 22041-3401
Tel. 703-931-4533
Web: <http://www.intlcode.org>

~~International Conference of Building Officials (ICBO)
5360 Workman Mill Road
Whittier, CA 90601-2298
Tel. 1-800-423-6587 ext 3278 (bldg-stdnrds)
Web: <http://www.icbo.org>~~

National Council on Radiation Protection and Measurement
7910 Woodmont Avenue, Suite 800
Bethesda, MD 20814-3095
Tel. 301-657-2652
Web: <http://www.ncrp.com>

National Fire Protection Association (NFPA)
1 Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101
Tel. 617-770-3000
Web: <http://www.nfpa.org>

National Institute of Standards and Technology
(formerly National Bureau of Standards)
100 Bureau Dr., Stop 3460
Gaithersburg, MD 20899-3460
Tel. 301-975-6478
Web: <http://www.nist.gov>

National Technical Information Service (NTIS)
U.S. Department of Commerce Technology Administration
5285 Port Royal Road
Springfield, VA 22161
Tel. 703-605-6000, 703-487-4600

Web: <http://www.ntis.gov>

~~Department of Defense Single Stock Point Naval Publications and Form Center
5801 Tabor Avenue
Philadelphia, PA 19120
Building 4, Section D
700 Robbins Avenue
Philadelphia, PA 19111-5098
(DODP Penetration Test Method, MIL-STD-282)
<http://dodssp.daps.dla.mil>/Web: <http://astimage.daps.dla.mil/wizard> (go to “registration”)~~

Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738
Tel. 301-415-7000
Web: <http://www.nrc.gov>

Occupational Safety & Health Administration
U.S. Department of Labor
200 Constitution Avenue, N.W., Room N3647
Washington, DC 20210
Tel. 202-693-1999
Web: <http://www.osha.gov>

Plumbing-Heating-Cooling Contractors—National Association
180 South Washington Street, P.O. Box 6808
Falls Church, VA 22046
Tel. 1-800-533-7694
Web: <http://www.naphcc.org>

~~Southern Building Code Congress International, Inc.
900 Montclair Road
Birmingham, AL 35213-1206
Tel. 205-591-1853
Web: <http://www.sbcc.org>~~

Underwriters Laboratories, Inc.
333 Pfingsten Road
Northbrook, IL 60062-2096
Tel. 847-272-8800
Web: <http://www.ul.com>

A1.5

Owners of existing facilities should undertake an assessment of their facility with respect to its ability to withstand the effects of regional natural disasters. The assessment should consider performance of structural and critical nonstructural building systems and the likelihood of loss of externally supplied power, gas, water, and communications under such conditions. Facility master planning should consider mitigation measures required to address conditions that may be hazardous to patients and conditions that may compromise the ability of the facility to fulfill its planned post-emergency medical response. Particular attention should be paid to seismic considerations in areas where the effective peak acceleration coefficient, A_a , of ASCE 7-93 exceeds 0.15.

Infection and Biohazard Control

Facilities may designate an outdoor parking lot adjacent to the emergency department to serve as a primary decontamination area, which should include appropriate plumbing fixtures (e.g., hot and cold water) and drainage. Utilization of screens and tents may be needed. Other contingencies may require airborne infection isolation, application and removal of therapeutic chemical substances, and temporary container storage of contaminated materials. Handwashing and shower capabilities will usually be of paramount importance in biohazard control efforts.

A1.5.A.

The ASCE 7-93 seismic provisions are based on the National Earthquake Hazards Reduction Program (NEHRP) provisions (1988 edition.) developed by the Building Seismic Safety Council (BSSC) for the Federal Emergency Management Agency (FEMA).

A study by the National Institute of Standards and Technology (NIST) found that the following seismic standards were essentially equivalent to the NEHRP (1988) provisions:

- 1991 ICBO Uniform Building Code
- 1992 Supplement to the BOCA National Building Code
- 1992 Amendments to the SBCC Standard Building Code

Executive Order 12699, dated January 5, 1990, specified the use of the maps in the most recent edition of ANSI A58 for seismic safety of federal and federally assisted or regulated new building construction. The ASCE 7 standard was formerly the ANSI A58 standard. Public Law 101-614 charged FEMA to "prepare and disseminate widely...information on building codes and practices for buildings..." The NEHRP provisions were developed to provide this guidance.

A1.67.C. Equivalency

While this document is adopted as a regulatory standard by many jurisdictions, it is the intent of the document to permit and promote equivalency concepts. When contemplating equivalency allowances, the authority having jurisdiction may use a variety of expert sources to make equivalency findings and may document the reasons for approval or denial of equivalency to the requestor. Alternate methods, procedures, design criteria, and functional variations from the Guidelines, because of extraordinary circumstances, new programs, or unusual conditions, may be approved by the authority having jurisdiction when the facility can effectively demonstrate that the intent of the Guidelines is met and that the variation does not reduce the safety or operational effectiveness of the facility below that required by the exact language of the Guidelines.

In all cases where specific limits are described, equivalent solutions will be acceptable if the authority having jurisdiction approves them as meeting the intent of these standards. *Nothing in this document shall be construed as restricting innovations that provide an equivalent level of performance with these standards in a manner other than that which is prescribed by this document, provided that no other safety element or system is compromised in order to establish equivalency.*