

AN AMERICAN NATIONAL STANDARD  
IAPMO/ANSI USHGC 1 – 2018

# 2018 UNIFORM SOLAR, HYDRONICS AND GEOHERMAL CODE™



READ ME  
TABLE OF CONTENTS



# 2018 UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE™

AN AMERICAN NATIONAL STANDARD  
IAPMO/ANSI USHGC 1 – 2018



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Fifteenth Edition  
First Printing, September 2018

Published by the International Association of Plumbing and Mechanical Officials  
4755 E. Philadelphia Street • Ontario, CA 91761-2816 – USA  
Main Phone: (909) 472-4100 • Main Fax: (909) 472-4150

## Important Notices and Disclaimers

The 2018 edition of the *Uniform Solar, Hydronics and Geothermal Code* is developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on solar energy, hydronic, and geothermal issues. While the International Association of Plumbing and Mechanical Officials (IAPMO) administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in its codes and standards.

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## Updating IAPMO Codes

The IAPMO code development process provides the opportunity for users of IAPMO codes to submit a code change proposal to the 2018 edition of the Uniform Solar, Hydronics and Geothermal Code. Please visit the IAPMO Group codes information pages on <http://codes.iapmo.org> to obtain the current revision cycle timeline.

Users of IAPMO codes should be aware that IAPMO codes may be corrected from time to time by Errata. IAPMO codes consist of the current edition of the document together with any Errata in effect.

In order to determine whether an IAPMO code has been corrected by Errata, please visit the IAPMO Group codes information pages on IAPMO's website ([www.iapmo.org](http://www.iapmo.org)). The codes information pages provide a list of IAPMO codes with up-to-date specific information including any Errata.

To access the code information pages for a specific code, go to <http://codes.iapmo.org> to select from the list of IAPMO codes. For Errata, select the archived revision information.

## FOREWORD

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### Origin and Development

The industry has long recognized the advantages of a statewide adopted solar energy, hydronics and geothermal code. The first edition of the *Uniform Solar, Hydronics and Geothermal Code*<sup>™</sup> (USHGC<sup>™</sup>) was adopted by IAPMO in 1976. The widespread use of this code over the past three decades by jurisdictions throughout the United States and internationally is testament to its merit.

Publishing the 2009 *Uniform Solar Energy Code* (USEC) was a significant milestone because it was the first time in the history of the United States that a solar energy code was developed through a true consensus process. Beginning with the development of the 2015 edition, the *Uniform Solar Energy and Hydronics Code* (USEHC) was expanded to include sustainable energy sources and hydronic provisions, and served to coalesce and integrate the hydronics industry. Though geothermal is not new in the 2018 edition, the title for the 2018 edition was revised to clarify that the code also pertains to geothermal energy systems. The 2018 *Uniform Solar, Hydronics and Geothermal Code* (USHGC) represents the most current approaches in the solar energy, hydronics and geothermal field. The 2018 USHGC is the fourth edition developed under the ANSI consensus process. Contributions to the content of this code consists of diverse interests as consumers, enforcing authorities, installers/maintainers, labor, manufacturers, research/standards/testing laboratories, special experts, and users.

The *Uniform Solar, Hydronics and Geothermal Code* (USHGC) provides consumers with complete requirements for the installation and maintenance of solar thermal energy, hydronics, geothermal energy, and solar photovoltaic (PV) systems, while at the same time, allowing latitude for innovation and new technologies. The public at large is invited and encouraged to take part in IAPMO's open consensus code development process. This code is updated every three years. The *Uniform Solar, Hydronics and Geothermal Code* is dedicated to all those who in working to achieve "the ultimate solar energy, hydronics and geothermal code," have unselfishly devoted their time, effort, and personal funds to create and maintain this, the finest solar energy, hydronics and geothermal code in existence today.

The *Uniform Solar, Hydronics and Geothermal Code* updates every three years in revision cycles that take two years to complete.

Each revision cycle advances according to a published schedule that includes final dates for all major events and contains three basic steps as follows:

1. Public and Committee Proposal Stage;
2. Comment Stage;
3. Executive Appeals and Issuance of Code.

IAPMO develops "full consensus" codes built on a foundation of maximum participation and agreement by a broad range of interests. This philosophy has led to producing technically sound codes that promote health and safety, yet do not stifle design or development.

It is important to stress that the process remains committed to the principles of consensus code development where consensus Technical Committees and Correlating Committees revise codes. The public and membership is offered multiple opportunities to debate, provide input and raise concerns through Amending Motions at Technical Committee meetings. Anyone may submit an appeal related to the issuance of a document through the Executive Committee.

The 2018 *Uniform Solar, Hydronics and Geothermal Code* is supported by ASSE International (ASSE), Mechanical Contractors Association of America (MCAA), the Plumbing-Heating-Cooling Contractors National Association (PHCC-NA), Radiant Professionals Alliance (RPA), the United Association (UA), and the World Plumbing Council (WPC). The presence of these logos, while reflecting support, does not imply any ownership of the copyright to the USHGC, which is held exclusively by IAPMO. Further, the logos of these associations indicate the support of IAPMO's open consensus process being used to develop IAPMO's codes and standards.

The addresses of the organizations are as follows:

ASSE – 18927 Hickory Creek Drive, Suite 220 • Mokena, IL 60448 • (708) 995-3019

MCAA – 1385 Piccard Drive • Rockville, MD 20850 • (301) 869-5800

PHCC-NA – PO Box 6808 • Falls Church, VA 22046 • (800) 533-7694

RPA – 18927 Hickory Creek Drive, Suite 220 • Mokena, IL 60448 • (877) 427-6601

UA – Three Park Place • Annapolis, MD 21401 • (410) 269-2000

WPC – World Plumbing Council Secretariat, Auf der Mauer 11 • Postfach CH 8021 • Zurich, Switzerland • www.WorldPlumbing.org

### Adoption

The *Uniform Solar, Hydronics and Geothermal Code* is available for adoption and use by jurisdictions in the United States and Internationally. Its use within a governmental jurisdiction is accomplished through adoption by reference in accordance with applicable jurisdictional laws. At adoption, jurisdictions should insert the applicable information in bracketed words in the sample ordinance. The sample legislation for adoption of the *Uniform Solar, Hydronics and Geothermal Code* on page ix provides key components, regulations and resolutions.

### Revision Markings

Solid vertical lines in the margins indicate a technical change from the requirements of the 2015 edition. An arrow (←) in the margin indicates where an entire section, paragraph, exception or table has been deleted, or an item in a list of items or a table has been deleted.

A double right angle (◀◀) in the margin indicates that the text or a table has been relocated within the code. The table found on page xii points out the relocations in the 2018 edition of the *Uniform Solar, Hydronics and Geothermal Code*.

A reference in brackets [ ] following a section or paragraph indicates material that has been extracted from another document. This reprinted material is not the complete and official position of the source document on the referenced subject that is represented by the standard in its entirety.

Text that is extracted pursuant to IAPMO's Extract Guidelines, but outside of the regular revision process is denoted with the use of the source document in the margin. This text is not fully processed by IAPMO in accordance with ANSI's public announcement consensus requirements for an American National Standard (ANS) nor approved by ANSI's Board of Standards Review. The next revision cycle processes such text in accordance with those requirements.

## FORMAT OF THE UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE

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The format of the *Uniform Solar, Hydronics and Geothermal Code* (USHGC) arranges each chapter in accordance with a specific subject matter. However, Chapter 3 is dedicated to general requirements that are applicable to every chapter. The subject matters are divided as follows:

CHAPTERS	SUBJECTS
1	Administration
2	Definitions
3	General Regulations
4	Hydronics
5	Solar Thermal Systems
6	Thermal Storage
7	Geothermal Energy Systems
8	Solar Photovoltaic Systems
9	Referenced Standards
Appendix A	Engineered Solar Energy Systems
Appendix B	Solar Photovoltaic System Installation Guidelines
Appendix C	Supplemental Checklist for Solar Photovoltaic Systems

The following is a summary of the scope and intent of the provisions addressed within the chapters and appendices of the *Uniform Solar, Hydronics and Geothermal Code*.

### Chapter 1 Administration.

Chapter 1 regulates the application, enforcement, and administration of subsequent requirements of the code. As well as establishing the scope of the code, this chapter is concerned with enforcing the requirements contained in the body of the code. The *Uniform Solar, Hydronics and Geothermal Code* (USHGC), as with any other code, is intended to be adopted as a legally enforceable document to safeguard health, safety, property and public welfare. The code cannot be effective without satisfactory provisions for its administration and enforcement. The Authority Having Jurisdiction is to review the proposed and completed work and to decide whether a system conforms to the code requirements. As a public servant, the Authority Having Jurisdiction enforces the code in an unbiased, proper manner. The design professional is responsible for the design of a safe system. The contractor is responsible for installing the system in accordance with the plans.

### Chapter 2 Definitions.

To maintain consistency and encourage the use of common terminology, Chapter 2 establishes definitions to provide clarity of terms and promote the use of a common language throughout the code. Understanding definitions within the context of their application enables greater collaboration, efficiency, standardization and interpretation in applying and enforcing terms used throughout the code. Codes are technical documents, and every term can impact the meaning of the code text. Terms not defined have a normally accepted meaning.

### Chapter 3 General Regulations.

Chapter 3 regulates the general requirements, not specific to other chapters, for installing solar energy, hydronics or geothermal systems. Many regulations are not specific solar energy, hydronics or geothermal requirements, but relate to the overall system. This chapter contains safety requirements for appliance location and installation, appliance and system access, condensate disposal, and clearances to combustibles. Listing or labeling method of approval, based on applicable nationally recognized standards, for the safe and proper installation of solar energy, hydronics or geothermal systems is essential to ensure protection of public health, safety, and welfare. The safety requirements provide protection for piping, material, and structures, with provisions for installation practices, removing stress and strain of the pipe, sleeving, and hanger support. The building's structural stability is protected by the regulations for cutting and notching of structural members.

## FORMAT OF THE UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE

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### **Chapter 4 Hydronics.**

Chapter 4 regulates hydronic systems that are part of heating, cooling, ventilation, and conditioning systems. Such piping systems include steam, hot water, chilled water, steam condensate, and the ground source heat pump systems. The ground source heat pumps provisions in this chapter apply to the hydronics portions of the system. It is worth noting Chapter 7 address added provisions for ground source heat pumps.

Materials for piping and tubing must meet the working temperature and pressure of the system. In addition, materials must be compatible with the transfer medium to prevent deformation, bursting, or any chemical action between the material and the transfer medium. The allowable joining methods for piping or tubing are provided for application and enforcement purposes.

### **Chapter 5 Solar Thermal Systems.**

Chapter 5 regulates the design, installation, and construction requirements of solar thermal systems. This chapter provides the minimum safety requirements for all types of solar thermal systems, such as draindown, drainback, thermosiphon, open-loop and closed-loop systems.

Materials for piping and tubing must meet the working temperature and pressure of the system. In addition, materials must be compatible with the transfer medium to prevent deformation, bursting, or any chemical action between the material and the transfer medium. The allowable joining methods for piping or tubing are provided in Chapter 4 for application and enforcement purposes.

### **Chapter 6 Thermal Storage.**

Chapter 6 regulates the design, installation, construction and location of thermal storage. Pressure-type storage tanks store large amounts of energy and, when the pressure exceeds 15 psi, the tank must comply with ASME Boiler Pressure Vessel Code (BPVC) Section VIII. The stored energy must be contained to prevent disastrous failures. Installing a safety relief valve and expansion tank prevents pressures in the tank from exceeding the design threshold.

### **Chapter 7 Geothermal Energy Systems.**

Chapter 7 regulates the design, installation, construction and location of geothermal energy systems. In order to properly design a geothermal system, it is important to know the seasonal variation in the soil temperature, as well as the soil's inherent capability to store and transmit heat, namely its heat capacity and thermal conductivity.

Materials for piping and tubing must meet the working temperature and pressure of the system. In addition, materials must be compatible with the transfer medium to prevent deformation, bursting, or any chemical action between the material and the transfer medium. The allowable joining methods for piping or tubing are provided for application and enforcement purposes.

### **Chapter 8 Solar Photovoltaic Systems.**

Chapter 8 regulates the installation of solar photovoltaic (PV) systems, including array circuit(s), inverter(s), and controller(s) for such systems. Solar PV systems covered by this chapter are permitted to be interactive with other electrical power production sources or standalone, with or without electrical energy storage such as batteries.

### **Chapter 9 Referenced Standards.**

Chapter 9 provides a comprehensive list of referenced standards. The standards listed in Table 901.1 are applied as indicated in the applicable reference section(s). A list of additional standards, publications, practices, and guides that are not referenced in specific sections appear in Table 901.2.

Referenced standards set forth specific details of accepted practices, materials specifications, or test methods in many specialized applications. Standards provide an efficient method of conveying complex information and specifications on the performance requirements for materials, products, systems, application, and installation. The manner and purpose for a standard's use and, in turn, code compliance, must be definitive in all references to the standard. If the standard is intended to be a requirement for judging code compliance, the code must state its intent for use. The standard should adequately address a defined need and at the same time specify the minimum performance requirements, technical characteristics and methods of testing, and required test results.

The referenced standards table is organized in a manner that makes it easy to find specific standards in alphabetical order, and by acronym of the publishing agency of the standard. Table 901.1 and Table 901.2 lists the title of the standard, the edition, and any addenda. Table 901.1 also lists the section or sections of the code that reference the standard. Contact information for each publishing agency is provided at the end of the chapter.



## **FORMAT OF THE UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE**

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### **Appendix A Engineered Solar Energy Systems.**

Appendix A provides requirements for the design, installation, and inspection of an engineered solar energy system, alternate materials and equipment not specifically covered in other parts of the code.

### **Appendix B Solar Photovoltaic System Installation Guidelines.**

Appendix B provides installation guidelines for solar photovoltaic (PV) systems. The installation guidelines provided in this appendix are not applicable to PV installations for non-habitable structures such as parking shade structures, solar trellises, etc.

### **Appendix C Supplemental Checklist for Solar Photovoltaic Systems.**

Appendix C provides a supplemental checklist for solar photovoltaic (PV) installation that should be provided with the plan details.

## **SAMPLE LEGISLATION FOR ADOPTION OF THE UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE**

The Uniform Codes are designed to be adopted by jurisdictions through an ordinance. Jurisdictions wishing to adopt the 2018 *Uniform Solar, Hydronics and Geothermal Code* as an enforceable regulation governing solar energy, hydronics and geothermal systems should ensure the legal basis under which adoption and implementation are included in the ordinance.

The following sample ordinance is a guide for drafting an ordinance for adoption that addresses key components regulations and resolutions.

### **ORDINANCE NO.**

An ordinance of the [JURISDICTION] adopting the 2018 edition of the *Uniform Solar, Hydronics and Geothermal Code*, regulating the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of solar energy, hydronics and geothermal systems in the [JURISDICTION]; providing for the issuance of permits and collection of fees therefor; repealing Ordinance No. of the [JURISDICTION] and all other ordinances and parts of the ordinances in conflict therewith.

The [GOVERNING BODY] of the [JURISDICTION] does ordain as follows:

Section 1 Codes Adopted by Reference. That certain documents, three (3) copies of which are on file in the office of the [JURISDICTION'S KEEPER OF RECORDS] and the [JURISDICTION], being marked and designated as the 2018 *Uniform Solar, Hydronics and Geothermal Code*, including Appendix Chapters [FILL IN THE APPENDIX CHAPTERS BEING ADOPTED], as published by the International Association of Plumbing and Mechanical Officials, be and is hereby adopted as the Code of the [JURISDICTION], in the State of [STATE NAME] regulating and controlling the design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of solar energy, hydronics and geothermal systems as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of such 2018 *Uniform Solar, Hydronics and Geothermal Code* on file in the office of the [JURISDICTION] are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance.

Section 2 Modifications. The following sections are hereby revised:

Section 101.1. Insert: [NAME OF JURISDICTION]

Section 104.5. Insert: [APPROPRIATE FEE SCHEDULE]

Section 3 Conflicting Ordinances Repealed. That Ordinance No. of [JURISDICTION] entitled [TITLE OF THE ORDINANCE OR ORDINANCES IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY MENTION] and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 4 Preemption. [JURISDICTION] hereby fully occupies and preempts the entire field of regulation of design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of mechanical systems; and provision for the issuance of permits and collection of fees therefor; within the boundaries of [JURISDICTION]. [AS APPROPRIATE] Cities, towns, and counties or other municipalities may enact only those laws and ordinances relating to this field as specifically authorized by state law and consistent with this ordinance. Local laws and ordinances that are inconsistent with, more restrictive than, or exceed the requirements of [ORDINANCE NO.] shall not be enacted and are hereby expressly preempted and repealed, regardless of the nature of the code, charter, or home rule status of such city, town, county, or municipality.

Section 5 Severability. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The [GOVERNING BODY] hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

## **SAMPLE LEGISLATION FOR ADOPTION OF THE UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE**

Section 6 Legal Notice. That the [JURISDICTION'S KEEPER OF RECORDS] is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7 Violations and Penalties. [INCORPORATE PENALTIES FOR VIOLATIONS]

Section 8 Effective Date. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect [TIME PERIOD] from and after the date of its final passage and adoption.

## COMMITTEE ON UNIFORM SOLAR, HYDRONICS AND GEOTHERMAL CODE

The list represents the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred.

### IAPMO Uniform Solar, Hydronics and Geothermal Code Technical Committee

**Lance MacNevin**, Chairman  
Plastics Pipe Institute [SE]

**Adam Chrisman**, SunEarth [SE]

**Michael Cudahy**, Plastic Pipe and Fittings Association [M]

**Jay Egg**, EggGeothermal Consulting [C]

**Jeffrey Fecteau**, Underwriters Laboratories [R/S/T]

**Chris Haldiman**, Watts Water Technologies [M]

**Martin Hurtado**, City of Los Angeles [E]

**Michael Hyde Jr.**, State of Idaho Division of Building Safety [E]

**Harvey Kreitenberg**, Harvey Kreitenberg & Associates [I/M]

**Cody Mack**, Caleffi North America [M]

**Jeff Matson**, Viega LLC [M]

**Mark Morelli**, Air Connection [L]

**Edmond Murray**, Aztec Solar Inc. [U]

**Roshan Revankar**, IGSHPA [R/S/T]

**Donald Cary Smith**, Sound Geothermal Corporation [SE]

**Vaughan Woodruff**, Insource Renewables [U]

### Nonvoting

**Zalmie Hussein**, IAPMO Staff Liaison

**Enrique Gonzalez**, IAPMO Staff Liaison

### COMMITTEE MEMBERSHIP CLASSIFICATION ABBREVIATIONS

These classifications apply to Technical Committee members and represent their principal interest in the activity of a committee.

- M** Manufacturer: A representative of a maker or marketer of a product, assembly or system, or portion thereof, that is affected by the standard.
- U** User: A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.
- I/M** Installer/Maintainer: A representative of an entity that is in the business of installing or maintaining a product, assembly or system affected by the standard.
- L** Labor: A labor representative or employee concerned with safety in the workplace.
- R/S/T** Research/Standards/Testing Laboratory: A representative of an independent research organization; an organization that develops codes, standards and other similar documents; or an independent testing laboratory.
- E** Enforcing Authority: A representative or an agency or an organization that promulgates and/or enforces standards.
- C** Consumer: A person who is, or represents, the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in the User classification.
- SE** Special Expert: A person not representing any of the previous classifications, but who has special expertise in the scope of the standard or portion thereof.

## SECTION RELOCATION

2018 Location	2015 Location
401.8	412.3
409.4	409.3
409.5	409.4
409.6	409.5
410.2	410.3
410.2.1	410.3.1
410.3	410.4
410.4	410.5
410.5	410.6
410.6	410.7
412.3	412.4
412.4	412.5
414.4	414.5
Table 414.4	Table 414.5
414.5	414.6
414.5.1	414.6.1
414.5.2	414.6.2
414.6	414.7
414.7	414.8
414.9.1	414.9.2
416.1	416.3
416.1.1	416.3.1
Table 416.1.1	Table 416.3.1
416.1.2	416.3.2
416.1.3	416.3.3
416.1.4	416.3.5
416.1.5	416.3.6
708.1(7) – 708.1(12)	708.1(6) – 708.1(12)
801.0	901.0
801.1	901.1
801.2	901.2
Figure 801.2(1)	Figure 901.2(1)
Figure 801.2(2)	Figure 901.2(2)
802.0	902.0
802.1	902.1
802.2	902.2
802.3	902.3
802.4	902.4
802.6	902.5
803.0	904.0
803.1	904.1
803.2	904.2
804.0	905.0

2018 Location	2015 Location
804.1.1	905.1
Table 804.1.1	Table 905.1
804.2	905.5
805.0	906.0
805.1 – 805.1.5	906.1
805.2 – 805.2.2	906.2
805.3	906.3
805.4	906.4
806.0	907.0
806.1	907.1
806.2	907.2
806.3	907.4
806.4	907.6
807.0	908.0
807.1	908.1
807.2.2	908.3
807.2.3	908.4
807.2.4	908.5
807.2.5	908.6
807.2.5.1	908.6.1
808.1	908.7
809.1	908.8
810.0	909.0
810.1	909.1
810.1.1	909.1.1
810.1.2	909.1.2
810.1.2.1	903.4.1
810.1.3	909.1.3
810.1.4	909.1.4
810.1.5	909.1.5
811.1	909.2
812.0	910.0
812.1	910.1
Table 812.1	Table 910.5
812.2	910.2
812.2.1	910.2(1)
812.2.2	910.2(4)
812.3	910.3
812.3.1	910.3.1
812.4	910.4
812.5	910.5
812.6	910.6

**SECTION RELOCATION**

2018 Location	2015 Location
812.7	910.7
812.7.1	910.7.1
812.7.2	910.7.2
812.7.3	910.7.3
812.7.4	910.7.4
812.7.5	911.3.7
812.8	910.8
812.9	910.9
813.1	910.11
814.1	910.12
814.1.1	910.12.1
814.1.2	910.12.2
814.1.3	910.12.3
814.1.4	910.12.4
814.1.5	910.12.5
815.1	910.13
816.0	911.0
816.1	911.1
816.1.1	911.1.1
816.1.2	911.1.2
816.1.3	911.1.3
816.1.4	911.1.4
816.1.5	911.1.5
817.1	911.2
818.1	911.3.1
818.1.1	911.3.4
818.1.2	911.3.3
818.1.3	911.3.6
818.2	911.3.1.1
818.2.1	911.3.1.1(1)
818.2.2	911.3.1.1(2)
818.3	911.3.8
818.4	911.3.1.2
819.1	911.4
Table 819.1	Table 911.4
819.1.1	911.4.1
819.1.2	911.4.2
819.1.3	911.4.3
819.1.4	911.4.4
820.1	911.5
821.1	911.6
821.2.2	911.6.2.1

2018 Location	2015 Location
821.2.3	911.6.2.2
821.2.4	911.6.2.3
821.2.5	911.6.2.4
821.2.6	911.6.2.5
821.3	911.6.4
821.3.1	911.6.4.1
821.3.3	911.6.2.4.1
821.3.4	911.6.2.5.1
821.3.5	911.6.2.3.1
821.3.6	911.6.4.3
821.3.7	911.6.2.3.2
821.3.8	911.6.4.4
821.3.9	911.6.4.5
822.1	911.9
823.0	912.0
823.1	912.1
823.2	912.2
823.3	903.4.2
824.1	912.3
825.1	912.4
825.2	912.5
826.1	912.6
827.1	912.7
827.2	912.8
827.3.1	912.9
828.0	913.0
829.0	914.0
830.1	914.9
831.1	914.10
901.0	1001.0
901.1	1001.1
Table 901.1	Table 1001.1

This is a preview of "IAPMO/ANSI USHGC 1-2...". [Click here to purchase the full version from the ANSI store.](#)

## TABLE OF CONTENTS

<b>CHAPTER 1</b>	<b>ADMINISTRATION . . . . .1</b>		
101.0	General . . . . .1	107.2	Limitations of Authority . . . . .5
101.1	Title . . . . .1	Table 104.5	System Permit Fees . . . . .6
101.2	Scope . . . . .1	<b>CHAPTER 2</b>	<b>DEFINITIONS . . . . .7</b>
101.3	Purpose . . . . .1	201.0	General . . . . .7
101.4	Unconstitutional . . . . .1	201.1	Applicability . . . . .7
101.5	Validity . . . . .1	202.0	Definition of Terms . . . . .7
102.0	Applicability . . . . .1	202.1	General . . . . .7
102.1	Conflicts Between Codes . . . . .1	202.2	Terms Defined in Other Documents . . . . .7
102.2	Existing Installation . . . . .1		
102.3	Maintenance . . . . .1	<b>CHAPTER 3</b>	<b>GENERAL REGULATIONS . . . . .15</b>
102.4	Additions, Alterations, Renovations, or Repairs . . . . .1	301.0	General . . . . .15
102.5	Health and Safety . . . . .1	301.1	Applicability . . . . .15
102.6	Changes in Building Occupancy . . . . .1	302.0	Standards and Alternates . . . . .15
102.7	Moved Structures . . . . .1	302.1	Minimum Standards . . . . .15
102.8	Appendices . . . . .1	302.2	Alternate Materials and Methods of Construction Equivalency . . . . .15
103.0	Duties and Powers of the Authority Having Jurisdiction . . . . .1	302.3	Flood Hazard Areas . . . . .15
103.1	General . . . . .1	302.4	Alternative Engineered Design . . . . .16
103.2	Liability . . . . .2	303.0	Iron Pipe Size (IPS) Pipe . . . . .16
103.3	Applications and Permits . . . . .2	303.1	General . . . . .16
103.4	Right of Entry . . . . .2	304.0	Accessibility for Service . . . . .16
104.0	Permits . . . . .2	304.1	General . . . . .16
104.1	Permits Required . . . . .2	304.2	Access to Appliances on Roofs . . . . .16
104.2	Exempt Work . . . . .2	304.3	Appliances in Attics and Under-Floor Spaces . . . . .17
104.3	Application for Permit . . . . .2	304.4	Appliances on Roofs . . . . .17
104.4	Permit Issuance . . . . .3	305.0	Installation . . . . .17
104.5	Fees . . . . .3	305.1	Listed Appliances . . . . .17
105.0	Inspections and Testing . . . . .4	305.2	Dissimilar Metals . . . . .17
105.1	General . . . . .4	305.3	Direction of Flow . . . . .17
105.2	Required Inspection . . . . .4	305.4	Changes in Direction . . . . .17
105.3	Testing of Systems . . . . .5	305.5	Improper Location . . . . .18
105.4	Connection to Service Utilities . . . . .5	305.6	Insulation . . . . .18
106.0	Violations and Penalties . . . . .5	305.7	Drainage Pan . . . . .18
106.1	General . . . . .5	305.8	Anchorage . . . . .18
106.2	Notices of Correction or Violation . . . . .5	305.9	Structural Design Loads . . . . .18
106.3	Penalties . . . . .5	305.10	Location . . . . .18
106.4	Stop Orders . . . . .5	305.11	Ownership . . . . .18
106.5	Authority to Disconnect Utilities in Emergencies . . . . .5	306.0	Workmanship . . . . .18
106.6	Authority to Condemn . . . . .5	306.1	Engineering Practices . . . . .18
107.0	Board of Appeals . . . . .5		
107.1	General . . . . .5		



TABLE OF CONTENTS

306.2	Concealing Imperfections . . . . .	18	312.5	Pressure Reducing Valves . . . . .	21
306.3	Burred Ends . . . . .	18	312.6	Equipment, Components, and Appliances . . . . .	21
306.4	Installation Practices . . . . .	18	312.7	Expansion Tanks . . . . .	21
307.0	Labeling . . . . .	18	312.8	Flow Balancing Valves . . . . .	21
307.1	Fuel-Burning Appliances . . . . .	18	312.9	Control Valves . . . . .	21
307.2	Electric Heating Appliances . . . . .	18	312.10	Thermosiphoning . . . . .	21
307.3	Heat Pump and Electric Cooling Appliances . . . . .	18	312.11	Air Removal Device or Air Vents . . . . .	21
307.4	Absorption Units . . . . .	19	312.12	Closed Loop Systems . . . . .	21
308.0	Condensate Wastes and Control . . . . .	19	312.13	Fullway Valves . . . . .	21
308.1	Condensate Disposal . . . . .	19	312.14	Accessible . . . . .	21
308.2	Condensate Control . . . . .	19	313.0	Heat Exchangers . . . . .	21
308.3	Condensate Waste Pipe Material and Sizing . . . . .	19	313.1	General . . . . .	21
Table 308.3	Minimum Condensate Pipe Size . . . . .	19	314.0	Unlawful Connections . . . . .	22
308.4	Appliance Condensate Drains . . . . .	20	314.1	Prohibited Installation . . . . .	22
308.5	Point of Discharge . . . . .	20	315.0	Electrical . . . . .	22
308.6	Condensate Waste from Air-Conditioning Coils . . . . .	20	315.1	Wiring . . . . .	22
308.7	Plastic Fittings . . . . .	20	315.2	Controls . . . . .	22
309.0	Safety Requirements . . . . .	20	315.3	Solar Photovoltaic (PV) Systems . . . . .	22
309.1	Welding . . . . .	20	316.0	Disposal of Liquid Waste . . . . .	22
309.2	Spark or Flame . . . . .	20	316.1	General . . . . .	22
309.3	Hazardous Heat-Transfer Mediums . . . . .	20	316.2	Connections to Drainage System Required . . . . .	22
309.4	Discharge . . . . .	20	316.3	Drainage . . . . .	22
310.0	Circulators and Pumps . . . . .	20	316.4	Nonpotable Discharge . . . . .	22
310.1	General . . . . .	20	317.0	Hangers and Supports . . . . .	22
310.2	Mounting . . . . .	20	317.1	General . . . . .	22
310.3	Sizing . . . . .	20	317.2	Material . . . . .	22
310.4	Drainback Systems . . . . .	20	317.3	Suspended Piping . . . . .	22
310.5	Pumps Used in Parallel . . . . .	20	317.4	Alignment . . . . .	22
310.6	Cavitation . . . . .	20	317.5	Underground Installation . . . . .	22
310.7	Materials . . . . .	20	317.6	Hanger Rod Sizes . . . . .	22
310.8	Operation . . . . .	20	Table 317.6	Hanger Rod Sizes . . . . .	22
311.0	Safety Devices . . . . .	20	317.7	Strength . . . . .	22
311.1	General . . . . .	20	318.0	Protection of Piping, Materials, and Structures . . . . .	22
311.2	Pressurized Vessels . . . . .	21	318.1	General . . . . .	22
311.3	Discharge Piping . . . . .	21	Table 317.3	Hangers and Supports . . . . .	23
311.4	Vacuum Relief Valves . . . . .	21	318.2	Installation . . . . .	23
311.5	Temperature Regulation . . . . .	21	318.3	Fire-Resistant Construction . . . . .	23
312.0	Valves . . . . .	21	318.4	Waterproofing of Openings . . . . .	23
312.1	General . . . . .	21	318.5	Steel Nail Plates . . . . .	23
312.2	Where Required . . . . .	21	318.6	Sleeves . . . . .	23
312.3	Heat Exchanger . . . . .	21	318.7	Firewalls . . . . .	24
312.4	Pressure Vessels . . . . .	21	318.8	Structural Members . . . . .	24
			318.9	Rodentproofing . . . . .	24
			318.10	Metal Collars . . . . .	24

TABLE OF CONTENTS

319.0	Protection of System Components . . . . .	24	404.7	Heat Transfer Fluid . . . . .	26
319.1	Materials . . . . .	24	405.0	Installation, Testing, and Inspection . . . . .	26
319.2	Corrosion . . . . .	24	405.1	Operating Instructions . . . . .	26
319.3	Mechanical Damage . . . . .	24	405.2	Pressure Testing . . . . .	26
320.0	Trenching, Excavation, and Backfill . . . . .	24	405.3	Flushing . . . . .	26
320.1	Trenches . . . . .	24	405.4	Oxygen Diffusion Corrosion . . . . .	26
320.2	Tunneling and Driving . . . . .	24	406.0	Heating Appliances and Equipment . . . . .	26
320.3	Open Trenches . . . . .	24	406.1	General . . . . .	26
320.4	Excavations . . . . .	24	406.2	Boilers . . . . .	26
321.0	Abandonment . . . . .	24	406.3	Dual-Purpose Water Heaters . . . . .	26
321.1	General . . . . .	24	406.4	Solar Heat Collector Systems . . . . .	26
321.2	Storage Tank . . . . .	24	407.0	Expansion Tanks . . . . .	26
322.0	Other Systems . . . . .	24	407.1	General . . . . .	26
322.1	General . . . . .	24	407.2	Installation . . . . .	27
322.2	Duct Systems . . . . .	24	407.3	Closed-Type Expansion Tanks . . . . .	27
<b>CHAPTER 4</b>	<b>HYDRONICS . . . . .</b>	<b>25</b>	407.4	Open-Type Expansion Tanks . . . . .	27
401.0	General . . . . .	25	408.0	Materials . . . . .	27
401.1	Applicability . . . . .	25	408.1	Pipe, Tube, Tubing, and Fittings . . . . .	27
401.2	Insulation . . . . .	25	408.2	Expansion and Contraction . . . . .	27
401.3	Water Hammer Protection . . . . .	25	408.3	Hangers and Supports . . . . .	27
401.4	Manifolds . . . . .	25	409.0	Joints and Connections . . . . .	27
401.5	Heat Emitters . . . . .	25	409.1	General . . . . .	27
401.6	Mechanical Devices . . . . .	25	409.2	Chlorinated Polyvinyl Chloride (CPVC) Pipe . . . . .	27
401.7	Flexible Connectors . . . . .	25	409.3	CPVC/AL/CPVC Plastic Pipe and Joints . . . . .	27
401.8	Freeze Protection . . . . .	25	Table 408.1	Materials for Hydronics and Solar Thermal System, Piping, Tubing, and Fittings . . . . .	28
402.0	Protection of Potable Water Supply . . . . .	25	409.4	Copper or Copper Alloy Pipe and Tubing . . . . .	28
402.1	Prohibited Sources . . . . .	25	409.5	Cross-Linked Polyethylene (PEX) Pipe . . . . .	29
402.2	Protection of Potable Water . . . . .	25	409.6	Cross-Linked Polyethylene/Aluminum/Cross-Linked Polyethylene (PEX-AL-PEX) Pipe . . . . .	29
402.3	Compatibility . . . . .	25	409.7	Polyethylene (PE) Plastic Pipe/Tubing . . . . .	29
403.0	Capacity of Heat Source . . . . .	25	409.8	Polyethylene/Aluminum/Polyethylene (PE-AL-PE) . . . . .	30
403.1	Heat Source . . . . .	25	409.9	Polyethylene of Raised Temperature (PE-RT) . . . . .	30
403.2	Dual Purpose Water Heater . . . . .	25	409.10	Polypropylene (PP) Pipe . . . . .	30
Table 403.2	Water Heaters . . . . .	25	409.11	Polyvinyl Chloride (PVC) Pipe . . . . .	30
403.3	Tankless Water Heater . . . . .	25	409.12	Steel Pipe and Tubing . . . . .	30
404.0	Identification of Piping Systems . . . . .	25			
404.1	General . . . . .	25			
404.2	Color and Information . . . . .	25			
404.3	Potable Water . . . . .	25			
Table 404.3	Minimum Length of Color Field and Size of Letters . . . . .	26			
404.4	Nonpotable Water . . . . .	26			
404.5	Location of Piping Identification . . . . .	26			
404.6	Flow Directions . . . . .	26			

**TABLE OF CONTENTS**

409.13	Joints Between Different Materials . . . . .	31	415.1	General . . . . .	34
410.0	System Controls . . . . .	31	416.0	Snow and Ice Melt Systems . . . . .	34
410.1	Water Temperature Controls . . . . .	31	416.1	Snow and Ice Melt Controls . . . . .	34
410.2	Operating Steam Controls . . . . .	31	Table 416.1.1	Maximum Loop Lengths for Snow and Ice Melt Systems . . . . .	34
410.3	Occupied Spaces . . . . .	31	416.2	Types of Tube Fasteners . . . . .	35
410.4	Return-Water Low-Temperature Protection . . . . .	31	416.3	Spacing of Tube Fasteners . . . . .	35
410.5	Simultaneous Operation . . . . .	31	417.0	Piping Installation . . . . .	35
410.6	Temperature Reading . . . . .	31	417.1	General . . . . .	35
411.0	Pressure and Flow Controls . . . . .	31	417.2	Embedded Piping Materials and Joints . . . . .	35
411.1	Balancing . . . . .	31	417.3	Pressure Testing . . . . .	35
411.2	Low-Water Control . . . . .	31	417.4	System Drainage . . . . .	35
411.3	Flow-Sensing Devices . . . . .	31	417.5	Clearance to Combustibles . . . . .	35
411.4	Automatic Makeup Fluid . . . . .	31			
411.5	Differential Pressure Regulation . . . . .	31	<b>CHAPTER 5</b>	<b>SOLAR THERMAL SYSTEMS . . . . .</b>	<b>37</b>
411.6	Air-Removal Device . . . . .	32	501.0	General . . . . .	37
411.7	Air-Separation Device . . . . .	32	501.1	Applicability . . . . .	37
411.8	Secondary Loops . . . . .	32	501.2	Connections . . . . .	37
412.0	Hydronic Space Heating . . . . .	32	501.3	Stagnation Condition . . . . .	37
412.1	General . . . . .	32	501.4	Draining . . . . .	37
412.2	Installation . . . . .	32	501.5	Materials . . . . .	37
412.3	Balancing . . . . .	32	501.6	Thermosiphon Systems . . . . .	37
412.4	Heat Transfer Fluid . . . . .	32	501.7	Drainback Systems . . . . .	37
413.0	Steam Systems . . . . .	32	501.8	Auxiliary Heating . . . . .	37
413.1	Steam Traps . . . . .	32	501.9	Automatic Air Vents . . . . .	37
413.2	Sloping for Two-Pipe System . . . . .	32	501.10	Waterproofing . . . . .	37
413.3	Sloping for One-Pipe System . . . . .	32	501.11	Protection . . . . .	37
413.4	Automatic Air Vents . . . . .	32	501.12	Freeze Protection . . . . .	37
413.5	Condensate Flow . . . . .	32	501.13	Circulators . . . . .	38
413.6	Steam-Distribution Piping . . . . .	32	501.14	Protection Against Decay . . . . .	38
414.0	Radiant Heating and Cooling . . . . .	32	501.15	Flash Points . . . . .	38
414.1	Installation . . . . .	32	501.16	Storage Tanks . . . . .	38
414.2	Radiant Floor Heating . . . . .	32	502.0	Solar Collectors . . . . .	38
414.3	Radiant Cooling Systems . . . . .	32	502.1	General . . . . .	38
414.4	Tube Placement . . . . .	32	502.2	Fire Safety Requirements . . . . .	38
Table 414.4	Maximum Loop Lengths of Continuous Tubing for Radiant Systems . . . . .	33	502.3	Flat Plate Collector Glass . . . . .	38
414.5	Poured Floor Structural Concrete Slab Systems . . . . .	33	502.4	Air Collectors . . . . .	38
414.6	Joist Systems and Subfloors . . . . .	33	502.5	Installation . . . . .	38
414.7	Wall and Ceiling Panels . . . . .	33	502.6	Listing . . . . .	38
414.8	Tubing Fasteners . . . . .	33	503.0	Insulation . . . . .	39
414.9	Radiant Heating and Cooling Panels . . . . .	34	503.1	General . . . . .	39
415.0	Indirect-Fired Domestic Hot-Water Storage Tanks . . . . .	34	503.2	Heat Loss . . . . .	39

**TABLE OF CONTENTS**

503.3	Piping . . . . .	39	605.0	Expansion Tanks . . . . .	46
503.4	Fittings . . . . .	39	605.1	Where Required . . . . .	46
503.5	Installation . . . . .	39	605.2	Systems with Open Type Expansion Tanks . . . . .	46
503.6	Ducts . . . . .	39	605.3	Closed-Type Systems . . . . .	46
504.0	Testing . . . . .	39	605.4	Minimum Capacity of Closed-Type Tank . . . . .	46
504.1	Piping . . . . .	39	Table 605.4(1)	Expansion Tank Capacities for Gravity Hot Water Systems . . . . .	46
504.2	System Requirements . . . . .	39	Table 605.4(2)	Expansion Tank Capacities for Forced Water Systems . . . . .	47
505.0	Swimming Pools, Spas, and Hot Tubs . . . . .	39	606.0	Dry Storage Systems . . . . .	47
505.1	Water Chemistry . . . . .	39	606.1	Waterproofing . . . . .	47
505.2	Parameters . . . . .	39	606.2	Detecting Water Intrusion . . . . .	47
Table 503.3(1)	Minimum Pipe Insulation . . . . .	39	606.3	Rock as Storage Material . . . . .	47
Table 505.2	Water Chemistry . . . . .	40	606.4	Odor and Particulate Control . . . . .	47
505.3	Filter . . . . .	40	606.5	Combustibles Within Ducts or Plenums . . . . .	47
505.4	Corrosion Resistant . . . . .	40			
Table 503.3(2)	Iron Pipe and Copper Tubing Insulation Thickness . . . . .	41			
Table 503.3(3)	Universal Pipe Insulation Thickness Based on Radius and Iron Pipe Size (IPS) . . . . .	42	<b>CHAPTER 7</b>	<b>GEOTHERMAL ENERGY SYSTEMS . . . . .</b>	<b>49</b>
Table 503.3(4)	Design Values for Thermal Conductivity ( <i>k</i> ) of Industrial Insulation . . . . .	43	701.0	General . . . . .	49
Table 503.6	Insulation of Ducts . . . . .	44	701.1	Applicability . . . . .	49
			701.2	Construction Documents . . . . .	49
			701.3	Site Survey . . . . .	49
<b>CHAPTER 6</b>	<b>THERMAL STORAGE . . . . .</b>	<b>45</b>	701.4	Decommissioning and Abandonment . . . . .	49
601.0	General . . . . .	45	702.0	Groundwater Systems . . . . .	49
601.1	Applicability . . . . .	45	702.1	General . . . . .	49
601.2	Test Pressure for Storage Tanks . . . . .	45	703.0	Design of Systems . . . . .	49
601.3	Storage Tank Connectors . . . . .	45	703.1	Ground-Heat Exchanger Design . . . . .	49
602.0	Insulation . . . . .	45	703.2	Installation Practices . . . . .	49
602.1	Thickness . . . . .	45	703.3	Verification . . . . .	50
Table 602.1	Minimum Tank Insulation . . . . .	45	703.4	Vertical Bores . . . . .	50
603.0	Storage Tanks . . . . .	45	703.5	Underground Piping and Submerged Materials . . . . .	50
603.1	Plans . . . . .	45	703.6	DX Systems . . . . .	51
603.2	Atmospheric Tanks . . . . .	45	703.7	Indoor Piping . . . . .	51
603.3	Prefabricated Tanks . . . . .	45	704.0	Installation . . . . .	51
603.4	Separate Storage Tanks . . . . .	45	704.1	Trenching, Excavation, and Backfill . . . . .	51
603.5	Underground Tanks . . . . .	45	704.2	Trenches, Tunneling, and Driving . . . . .	51
603.6	Pressure Vessels . . . . .	45	704.3	Excavations and Open Trenches . . . . .	51
603.7	Devices . . . . .	45	704.4	Protection of Piping, Materials, and Structures . . . . .	51
603.8	Tank Covers . . . . .	46	704.5	Sleeves . . . . .	51
604.0	Materials . . . . .	46	704.6	Steel Nail Plates . . . . .	51
604.1	General . . . . .	46			
604.2	Construction . . . . .	46			
604.3	Concrete . . . . .	46			
604.4	Metal Tanks . . . . .	46			
604.5	Filler Metal . . . . .	46			

**TABLE OF CONTENTS**

705.0	Specific System Components Design . . . . .	52	805.0	Circuit Sizing and Current . . . . .	57
705.1	Heat Exchangers . . . . .	52	805.1	Calculation of Maximum Circuit Current . . . . .	57
705.2	Heat-Transfer Medium . . . . .	52	805.2	Conductor Ampacity . . . . .	57
705.3	On Site Storage . . . . .	52	805.3	Systems with Multiple Direct-Current Voltages . . . . .	57
705.4	Insulation . . . . .	52	805.4	Sizing of Module Interconnection Conductors . . . . .	57
706.0	Ground-Heat Exchanger Testing . . . . .	52	805.5	Standard Ampere Ratings . . . . .	57
706.1	Testing . . . . .	52	Table 805.5.1	Standard Ampere Ratings for Fuses and Inverse Time Circuit Breakers . . . . .	58
706.2	DX System Testing . . . . .	52	806.0	Overcurrent Protection . . . . .	58
707.0	Heat Pump and Distribution System Design . . . . .	52	806.1	Circuits and Equipment . . . . .	58
707.1	General . . . . .	52	806.2	Overcurrent Device Ratings . . . . .	58
707.2	Heat Pump Distribution System . . . . .	52	806.3	Photovoltaic Source and Output Circuits . . . . .	58
707.3	Circulating Pumps . . . . .	52	806.4	Power Transformers . . . . .	58
707.4	Heat Pump and Distribution System Installation . . . . .	52	807.0	Stand-Alone Systems . . . . .	58
708.0	System Start-Up . . . . .	52	807.1	General . . . . .	58
708.1	General . . . . .	52	807.2	Wiring System . . . . .	58
708.2	Operation and Maintenance Manual . . . . .	53	808.0	Arc-Fault Circuit Protection (Direct Current) . . . . .	59
<b>CHAPTER 8 SOLAR PHOTOVOLTAIC SYSTEMS . . . . . 55</b>			808.1	Arc-Fault Circuit Protection . . . . .	59
<b>PART I General . . . . . 55</b>			809.0	Rapid Shutdown of PV Systems on Buildings . . . . .	59
801.0	General . . . . .	55	809.1	Reduce Shock Hazard . . . . .	59
801.1	Electrical Wiring and Equipment . . . . .	55	<b>PART III Disconnecting Means . . . . . 60</b>		
801.2	Applicability . . . . .	55	810.0	Disconnecting Means . . . . .	60
802.0	General Requirements . . . . .	56	810.1	Photovoltaic System Disconnecting Means . . . . .	60
802.1	Photovoltaic Systems . . . . .	56	811.0	Disconnection of Photovoltaic Equipment . . . . .	61
802.2	Equipment . . . . .	56	811.1	Isolating Devices . . . . .	61
802.3	Qualified Personnel . . . . .	56	<b>PART IV Wiring Methods . . . . . 61</b>		
802.4	Multiple PV Systems . . . . .	56	812.0	Wiring Methods Permitted . . . . .	61
802.5	Locations Not Permitted . . . . .	56	812.1	Wiring Systems . . . . .	61
802.6	Photovoltaic Modules/Panels/Shingles . . . . .	56	Table 812.1	Correction Factors . . . . .	61
803.0	Alternating-Current (ac) Modules . . . . .	56	812.2	Identification and Grouping . . . . .	61
803.1	Photovoltaic Source Circuits . . . . .	56	812.3	Single-Conductor Cable . . . . .	62
803.2	Inverter Output Circuit . . . . .	56	812.4	Multiconductor Cable . . . . .	62
<b>PART II Circuit Requirements . . . . . 56</b>			812.5	Flexible Cords and Cables . . . . .	62
804.0	Circuit Requirements . . . . .	56	Table 812.5	Minimum PV Wire Strands . . . . .	62
804.1	Maximum Voltage . . . . .	56	812.6	Small-Conductor Cables . . . . .	62
Table 804.1.1	Voltage Correction Factors for Crystalline and Multicrystalline Silicon Modules . . . . .	56	812.7	Photovoltaic System Direct-Current Circuits on or in a Building . . . . .	62
804.2	Bipolar Source and Output Circuits . . . . .	57	812.8	Flexible, Fine-Stranded Cables . . . . .	64

TABLE OF CONTENTS

812.9	Bipolar PV Systems . . . . .	.64	823.1	Directory . . . . .	.68
813.0	Component Interconnections . . . . .	.64	823.2	Modules . . . . .	.68
813.1	Concealed Fittings and Connectors . . . . .	.64	823.3	Format . . . . .	.68
814.0	Connectors . . . . .	.64	824.0	Alternating-Current Photovoltaic Modules . . . . .	.69
814.1	General . . . . .	.64	824.1	Identification . . . . .	.69
815.0	Access to Boxes . . . . .	.64	825.0	Direct-Current Photovoltaic Power Source . . . . .	.69
815.1	Junction, Pull, and Outlet Boxes . . . . .	.64	825.1	Labeling . . . . .	.69
<b>PART V</b>	<b>Grounding and Bonding</b> . . . . .	.64	825.2	Interactive System Point of Interconnection . . . . .	.69
816.0	Grounding and Bonding . . . . .	.64	826.0	Photovoltaic Systems Connected to Energy Storage Systems . . . . .	.69
816.1	PV System Grounding Configurations . . . . .	.64	826.1	Marking . . . . .	.69
816.2	Ground-Fault Protection . . . . .	.65	827.0	Facilities with Stand-Alone Systems . . . . .	.69
816.3	Ground-Fault Detection . . . . .	.65	827.1	General . . . . .	.69
816.4	Isolating Faulted Circuits . . . . .	.65	827.2	Facilities with Utility Services and Photovoltaic Systems . . . . .	.69
817.0	Point of System Grounding Connection . . . . .	.65	827.3	Buildings with Rapid Shutdown . . . . .	.69
817.1	Grounding Connection . . . . .	.65	<b>PART VII</b>	<b>Connection to Other Sources</b> . . . . .	.70
818.0	Equipment Grounding and Bonding . . . . .	.65	828.0	Connection to Other Sources . . . . .	.70
818.1	General . . . . .	.65	828.1	PV Systems . . . . .	.70
818.2	Equipment Fastened in Place or Connected by Permanent Wiring Methods (Fixed) — Grounding . . . . .	.65	<b>PART VIII</b>	<b>Energy Storage Systems</b> . . . . .	.70
818.3	Nongrounding Receptacle Replacement or Branch Circuit Extensions . . . . .	.65	829.0	Energy Storage Systems . . . . .	.70
818.4	Equipment Secured to Grounded Metal Supports . . . . .	.66	829.1	General . . . . .	.70
819.0	Size of Equipment Grounding Conductors . . . . .	.66	830.0	Batteries . . . . .	.70
819.1	General . . . . .	.66	830.1	Battery Locations . . . . .	.70
Table 819.1	Minimum Size Equipment Grounding Conductors for Grounding Raceway and Equipment . . . . .	.66	831.0	Self-Regulating Charge Control . . . . .	.70
820.0	Array Equipment Grounding Conductors . . . . .	.67	831.1	General . . . . .	.70
820.1	PV Modules . . . . .	.67	<b>PART IX</b>	<b>Large-Scale Photovoltaic (PV) Electric Power Production Facility</b> . . . . .	.71
821.0	Grounding Electrode System . . . . .	.67	832.0	Large-Scale Photovoltaic (PV) Electric Power Production Facility . . . . .	.71
821.1	Electrode System . . . . .	.67	832.1	Scope . . . . .	.71
821.2	Buildings or Structures Supporting a PV Array . . . . .	.67	832.2	Special Requirements for Large-Scale PV Electric Supply Stations . . . . .	.71
821.3	Additional Auxiliary Electrodes for Array Grounding . . . . .	.67	832.3	Equipment Approval . . . . .	.71
822.0	Equipment Bonding Jumpers . . . . .	.68	832.4	Engineered Design . . . . .	.71
822.1	Bonding Jumpers . . . . .	.68	832.5	Conformance of Construction to Engineered Design . . . . .	.71
<b>PART VI</b>	<b>Marking</b> . . . . .	.68	832.6	Direct Current Operating Voltage . . . . .	.71
823.0	Marking . . . . .	.68			

**TABLE OF CONTENTS**

832.7	Disconnection of Photovoltaic Equipment . . . . .	72
832.8	Arc-Fault Mitigation . . . . .	72
832.9	Fence Grounding . . . . .	72
<b>CHAPTER 9</b>	<b>REFERENCED STANDARDS . . . . .</b>	<b>73</b>
901.0	General . . . . .	73
901.1	Standards . . . . .	73
Table 901.1	Referenced Standards . . . . .	73
901.2	Standards, Publications, Practices, and Guides . . . . .	78
Table 901.2	Standards, Publications, Practices, and Guides . . . . .	78
<b>APPENDICES</b>	<b>TABLE OF CONTENTS . . . . .</b>	<b>81</b>
Appendix A	Engineered Solar Energy Systems . . . . .	83
Appendix B	Solar Photovoltaic System Installation Guidelines . . . . .	85
Appendix C	Supplemental Checklist for Solar Photovoltaic Systems . . . . .	91
<b>USEFUL TABLES</b>	<b>. . . . .</b>	<b>93</b>
<b>INDEX</b>	<b>. . . . .</b>	<b>97</b>

## CHAPTER 1

### ADMINISTRATION

#### 101.0 General.

**101.1 Title.** This document shall be known as the “Uniform Solar, Hydronics and Geothermal Code,” may be cited as such, and will be referred to herein as “this code.”

**101.2 Scope.** The provisions of this code shall apply to the erection, installation, alteration, addition, repair, relocation, replacement, addition to, use or maintenance of solar energy, water heating, appliances intended for space heating or cooling, swimming pool heating, process heating, geothermal and hydronic systems, snow and ice melt systems and use of any solar energy systems or swimming pool, spa or hot tub systems within this jurisdiction.

**101.3 Purpose.** This code is an ordinance providing minimum requirements and standards for the protection of the public health, safety, and welfare.

**101.4 Unconstitutional.** Where a section, subsection, sentence, clause, or phrase of this code is, for a reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this code. The legislative body hereby declares that it would have passed this code, and each section, subsection, sentence, clause, or phrase thereof, irrespective of the fact that one or more sections, subsections, sentences, clauses, and phrases are declared unconstitutional.

**101.5 Validity.** Where a provision of this code, or the application thereof to a person or circumstance, is held invalid, the remainder of the code, or the application of such provision to other persons or circumstances, shall not be affected thereby.

#### 102.0 Applicability.

**102.1 Conflicts Between Codes.** Where the requirements within the jurisdiction of this code conflict with the requirements of the plumbing or mechanical code, this code shall prevail. In instances where this code, applicable standards, or the manufacturer’s installation instructions conflict, the more stringent provisions shall prevail. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall prevail.

**102.2 Existing Installation.** Systems lawfully in existence at the time of the adoption of this code shall be permitted to have their use, maintenance, or repair continued where the use, maintenance, or repair is in accordance with the original design and location and no hazard to life, health, or property has been created by such system.

**102.3 Maintenance.** Systems, materials, and appurtenances, both existing and new, of a premise under the Authority Having Jurisdiction shall be maintained in operating condition. Devices or safeguards required by this code shall be maintained in accordance with the code edition under which installed.

The owner or the owner’s designated agent shall be responsible for maintenance of the system. To determine compliance with this subsection, the Authority Having Jurisdiction shall be permitted to cause a system to be reinspected.

**102.4 Additions, Alterations, Renovations, or Repairs.** Additions, alterations, renovations or repairs shall conform to that required for a new system without requiring the existing system to be in accordance with the requirements of this code. Additions, alterations, renovations or repairs shall not cause an existing system to become unsafe, insanitary, or overloaded.

Additions, alterations, renovations or repairs to existing system installations shall comply with the provisions for new construction unless such deviations are found to be necessary and are first approved by the Authority Having Jurisdiction.

**102.5 Health and Safety.** Where compliance with the provisions of this code fails to eliminate or alleviate a nuisance, or other dangerous or insanitary condition that involves health or safety hazards, the owner or the owner’s agent shall install such additional facilities or shall make such repairs or alterations as ordered by the Authority Having Jurisdiction.

**102.6 Changes in Building Occupancy.** Systems that are a part of a building or structure undergoing a change in use or occupancy, as defined in the building code, shall be in accordance with the requirements of this code that are applicable to the new use or occupancy.

**102.7 Moved Structures.** Parts of the system of a building or part thereof that is moved from one foundation to another, or from one location to another, shall be in accordance with the provisions of this code for new installations and completely tested as prescribed elsewhere in this section for new work, except that walls or floors need not be removed during such test where equivalent means of inspection acceptable to the Authority Having Jurisdiction are provided.

**102.8 Appendices.** The provisions in the appendices are intended to supplement the requirements of this code and shall not be considered part of this code unless formally adopted as such.

#### 103.0 Duties and Powers of the Authority Having Jurisdiction.

**103.1 General.** The Authority Having Jurisdiction shall be the Authority duly appointed to enforce this code. For such purposes, the Authority Having Jurisdiction shall have the powers of a law enforcement officer. The Authority Having Jurisdiction shall have the power to render interpretations of this code and to adopt and enforce rules and regulations supplemental to this code as deemed necessary in order to clarify the application of the provisions of this code. Such interpretations, rules, and regulations shall comply with the intent and purpose of this code.

In accordance with the prescribed procedures and with the approval of the appointing authority, the Authority Having Jurisdiction shall be permitted to appoint a such number of technical officers, inspectors, and other employees as shall be authorized from time to time. The Authority Having Jurisdiction shall be permitted to deputize such inspectors or