

# Comment on Safety Standard for Automatic Residential Garage Door Operators

## Manifest

Submission Date: November 16, 2015

Submission To:

Office of the Secretary  
Consumer Product Safety Commission  
Room 820, 4330 East West Highway  
Bethesda, MD 20814

Submission Through:

Regulations.Gov

Submission By:

Public.Resource.Org  
1005 Gravenstein Highway North  
Sebastopol, CA 95472-2811  
United States

Docket Number: [CPSC-2015-0025](#)

Document Formats: [HTML](#) | [PDF](#)

## **Table of Contents**

1. [Introduction and Statement of Purpose](#)
2. [The Problem With Garage Door Operators](#)
3. [Congress Acts to Make Garage Doors Safer](#)
4. [Searching for UL 325, the Garage Door Mandatory Standard](#)
5. [Incorporation by Reference of Three Additional UL Standards](#)
6. [Incorporation by Reference of the DASMA Standard](#)
7. [The National Electrical Code: This Code is Law!](#)
8. [Underwriters' Laboratories' Lucrative Certification Business](#)
9. [The Rule Is Not Valid and Runs Contrary To CPSC's Mission](#)
10. [Notes](#)
  - A. [Public Access to 103 Federal UL Incorporations](#)

## **Table of Standards**

1. [UL 325, Fourth Edition \(Entrapment Excerpts\)](#)
2. [DASMA 102-2004](#)

## **1. Introduction and Statement of Purpose**

This is a comment by Public.Resource.Org (“Public Resource”) on the Notice of Proposed Rulemaking (NPRM) entitled *Safety Standard for Automatic Residential Garage Door Operators* ([80 FR 53036](#)).

This is the second of two comments to the CPSC. On October 29, 2015, Public Resource submitted comment [CPSC-2015-0019-0009](#) on the rulemaking entitled *Safety Standard for Infant Bath Tubs* ([80 FR 48769](#)). That comment provided extensive background on the legal issues underlying U.S. law and the requirement that citizens of the United States must be free—based on long-standing public policy and numerous legal decisions—to read and speak the laws by which we choose to govern ourselves as a democratic society. Public Resource incorporates by reference that prior comment in this document as the issues presented are identical.

In this comment on Garage Door Operators, we focus on a single issue: the public availability and accessibility of documents that are incorporated by reference—through Congressional mandate and through CPSC rulemaking—into the Code of Federal Regulations. We do not address the substantive provisions of the garage door safety standards, and instead focus on why these documents, which are part and parcel of the Code of the Federal Regulations, must be freely available to read and speak if the rule is to be valid under U.S. law.

Public Resource would like to state one important and overriding fact at the outset: America is a safer place because of the dedicated efforts of the CPSC staff and commissioners. This is particularly true with garage door operators, where the CPSC took the Congressional mandate and the grave public concern and turned that into an effective mandatory safety rule in [16 CFR 1211](#).

It is precisely because this work is so important that CPSC must address this one glaring defect in this rulemaking: The text of the law is hidden from public view, available only for deliberately limited access, which is granted only after paying an entry fee \$1000. Special permission is required just to read the law. In most cases, copying the law—or even repeating a brief extract—is purportedly prohibited without a special license that is only awarded by a private organization at its discretion.

This is not how the rule of law is supposed to work. This is not how America is supposed to work.

## 2. The Problem With Garage Door Operators

On August 15, 2000, six students at Florida International University sent a letter to the Consumer Product Safety Commission, urging it to take much more assertive steps to protect the public from the perils of garage doors. [1] The students wrote:

*We feel that it is imperative that manufactures should take the initiative to make it mandatory to install garage door sensors on all new residential garage doors, in order to prevent future mishaps. Statistics show the CPSC sets mandatory consumer product standards and requires manufacturers to report defects in products that could create substantial hazards to the public. Since 1990, an average of 20,000 people each year have been treated in hospital emergency rooms for injuries related to garage doors. In 1988 to 1995, an estimated 68,380 finger injuries associated with garage doors were treated in hospital emergency rooms, an average of 8,550 finger injuries per year. In 1996, the estimated 8,530 finger injuries associated with garage doors included 190 amputations, 1,000 crushing injuries, and 1,400 fractures. Children accounted for approximately 15 percent of the total 22,431 garage door related injuries reported from January 1982 to December 1985. Sixty children under the age of 14 have been trapped and killed under automatic garage doors since March 1982.*

*These accidents often occur when children press the door operator button, and try to run out underneath the door as it is closing. If the door's reversing mechanism does not function correctly, the child ends up trapped beneath the door, which continues to press down on the child. If the child is caught at the neck or chest, death usually results from suffocation.*

*Florida International University Students:  
Marlene Martell, Hector Gil, Sandra Lugo  
Carlotta Flores, Eric Rios, Lisabeth Montero*

The students went on to outline a series of steps the CPSC could take to make garage doors safer, including the use of secondary entrapment devices, such as constant contact buttons, photoelectric sensors, and door edge sensors, features that are now part of the current standard, though not without considerable initial resistance from CPSC staff at the time. [2]

In 1996, a team of 3 doctors who practice at the Hennepin County Medical Center in Minneapolis became concerned at the alarming number of children injured or killed by garage door openers. They look at the cases of 85 children that were severely injured between 1974 and 1995 by garage doors, 87% of whom had died. What they found was that the existing standard for safety was based on putting a block of wood under the door and determining if the door stopped and then reversed when it hits the obstruction. [3] But, children are not as solid as a block of wood, and the doctors determined that the existing test was not working. By substituting a roll of paper towels for the block of wood, they found they could test a garage door much more effectively to see if a child would be injured or killed.

The Florida students and the Minneapolis doctors were not the only ones sounding the alarm. The CPSC led that charge and made the country—and Congress—aware of the dangers of entrapment, injury, and death. [Table 1](#) has just a few of the CPSC releases on the subject, releases that were often picked up by national media.

**Table 1: Selected CPSC News Releases About Garage Door Openers**

Release	Date	Headline
<a href="#">Release 83-023</a>	1983-04-28	CPSC Warns Of Garage Door Accidents
<a href="#">Release 88-082</a>	1988-10-07	32 Children Die Since 1982 Playing “Garage Door Game”
<a href="#">Release 89-029</a>	1989-04-19	36 Children Fatalities: Parents Hold The Key To Garage Door Deaths
<a href="#">Release 90-051</a>	1990-03-16	43 Children Die: Parents Urged To Replace Unsafe Garage Door Openers
<a href="#">Release 91-059</a>	1991-04-19	Stanley Garage Door Openers Recalled Due To Entrapment Hazard
<a href="#">Release 92-024</a>	1991-12-03	Government And Industry Move To Reduce Garage Door Opener Child-Entrapment Deaths
<a href="#">Release 93-061</a>	1993-04-22	Sears Plug-In Light Controls For Automatic Garage Door Openers Recalled
<a href="#">Release 97-116</a>	1997-05-05	CPSC, Chamberlain Group Announce Recall to Repair Garage Door Openers in Puerto Rico

It is clear that not only is garage door safety an issue of pressing public concern but public knowledge is absolutely crucial to having an effective mandatory safety rule. Doctors, students, journalists, parents, engineers, educators, and many others can all contribute to a safer American garage. The CPSC cannot fulfill its mission without the help of a fully informed and engaged public.

### **3. Congress Acts to Make Garage Doors Safer**

In 1990, Congress passed the Consumer Product Safety Improvement Act of 1990 ([Pub. Law 101-608](#), 104 Stat. 3110), which included a number of administrative changes to how the CPSC operates. Tacked onto the end of the bill in § 203 was a mandatory safety measure for garage door operators. The Congressional Research Service summarized the provisions of Section 203 as follows:

*Requires each automatic garage door opening system manufactured after certain dates to:*

1. conform to a specified Underwriters' Laboratories standard;
2. include an electric sensing edge located on the edge of the door, designed when activated to cause a closing door to open and to prevent an open door from closing;
3. include an optical sensor or other functionally equivalent non-contact sensor designed to do the same; or
4. include a device found to provide equivalent protection from entrapment.

*Requires labeling on the packaging and on the system indicating the month and year of manufacture. Requires manufacturers to notify the public of the entrapment hazards of automatic garage door openers and advise owners of such systems to test them for the automatic reverse feature required by this Act. [4]*

The law specifically called out a standard created by Underwriters' Laboratories, UL 325, Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems. Congress also specified three additional clauses:

- § 203(a): The provisions of subsection (b) shall be considered to be a consumer product safety rule issued by the Consumer Product Safety Commission.

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

- § 203(b)(2)(B): If by June 1, 1992, the Underwriters' Laboratories, Inc., has not issued a revision to the May 4, 1988, Standards for Safety—UL 325, third edition then CPSC shall begin a rulemaking procedure.
- § 203(c): If, after June 1, 1992, or the date of a revision described in subsection (b)(2)(B) if later, the Underwriters' Laboratories, Inc. proposes to further revise the entrapment protection requirements of the American National Standards Institute Underwriters' Laboratories, Inc. Standards for Safety—UL 325, third edition, the Laboratories shall notify the Consumer Product Safety Commission of the proposed revision and the proposed revision shall be incorporated in the consumer product safety rule under subsection (a) unless, within 30 days of such notice, the Commission notifies the Laboratories that the Commission has determined that such revision does not carry out the purposes of subsection (b).

It is important to understand these three clauses. Congress deemed the law to be a CPSC rule. This rule has the same effect as any other CPSC rule that went through the administrative mechanism of a Notice of Proposed Rulemaking and then a Final Rule. Congress was able to incorporate the standard by reference without the formalities that CPSC must observe (such as approval by the Office of the Federal Register), but the standard is still part and parcel of the Code of Federal Regulations.

Additionally, it is important to understand that Underwriters' Laboratories is mandated by law to notify the CPSC of any revisions to the standard and, unless CPSC acts quickly to object, those revisions automatically become law. This is different from a normal incorporation by reference which requires that each subsequent revision of a standard be incorporated anew.

These provisions have been codified at 16 CFR 1211 as part of four prior rulemakings, joined now by the current Notice of Proposed Rulemaking:

- The initial rulemaking to insert the congressional provisions into the CFR was issued on December 21, 1992 (57 FR 60455).
- An updated final rule was issued September 4, 1997 ([62 FR 46667](#)).
- A notice of proposed rulemaking was issued June 14, 2000 ([65 FR 37318](#)) and a final rule was issued on November 27, 2000 ([65 FR 70656](#)).

- A notice of proposed rulemaking was issued January 18, 2007 ([72 FR 2217](#)) and a final rule was issued September 27, 2007 ([72 FR 54816](#)).
- The current notice of rulemaking was issued on September 2, 2015 ([80 FR 53036](#)).

These dates are relevant because in each case specific standards are named and, as we shall see, there is considerably ambiguity as to which specific version of those named standards is being named.

In the rulemakings, the CPSC elaborates on the Congressional mandate, issues labelling and record-keeping requirements, and incorporates by reference the standards that are named in UL 325.

The present rule incorporates by reference 3 types of standards:

1. In addition to UL 325, three other Underwriters' Laboratories standards.
2. A standard from the Door & Access Systems Manufacturers Association (DASMA).
3. The National Fire Protection Association's National Electrical Code.

Each of these three categories will be considered in turn. First, however, we will turn to the question of access to the present version of UL 325, the Fifth Edition, which is the current legal requirement.

#### **4. Searching for UL 325, the Garage Door Mandatory Standard**

Until the proposed rule in the Notice of Proposed Rulemaking currently underway becomes a final rule, the Fifth Edition of UL 325 is the current binding law in the United States. To prepare this comment, we first tried to locate a copy of the Fifth Edition of UL 325. This proved to be quite a challenge.

There are three vendors that Underwriters' Laboratories contracts with for sale of individual standards. The Thomson Reuters TechStreet service sells the current [Sixth Edition for \\$998](#), but does not make any historical versions available. IHS Global sells the [Sixth Edition for \\$998](#), and the Document Center sells the [Sixth Edition for \\$1078](#). Both IHS Global and the Document Center will sell historical editions. However Underwriters' Laboratories requires that any sale of a historical standard be explicitly



approved on a case-by-case basis by the legal staff of Underwriters' Laboratories before the vendor is allowed to make the sale.

On September 10, 2015, Public Resource applied for permission to purchase a copy of UL 325 from Underwriters' Laboratories. [5] The form that the Laboratories provides includes a mandatory field on which the applicant must list the reason for purchase. Public Resource stated:

*I wish to explain provisions of the Code of Federal Regulations to people and these specific versions of standards are a required component of those federal regulations. Note that I need the versions as of the dates listed, not more recent versions with amendments. Thanks!*

On September 11, 2015, IHS Global informed Public Resource that our application to purchase UL 325 had been denied. [6]

On November 2, 2015, we tried once again to purchase the Fifth Edition of UL 325, this time from the Document Center. The customer service representative said that we needed permission from the Laboratories to purchase the document, but before they could seek approval, we had to furnish a means of payment sufficient for \$990 and that "once an order for the above-mentioned documents has been placed, it cannot be cancelled or returned, so we will also need to figure out method of payment before we submit the document."

Public Resource furnished a credit card number and the following reason for purchase:

*I am looking at how UL 325, which is mandated by Congress as part of the federal garage door safety standards, has changed between the September 27, 2007 rulemaking the CPSC did and the June 3, 2013 final version. Specifically, I will be publishing an analysis of how those changes impacted the rule that was in place and what the substance of those changes were so people can understand how the CPSC rule has changed over time. I would also like to understand if CPSC and UL violated the congressional requirements in the law by not updating the rule between 2007 and the present to reflect those changes.*

As of the submission date of this filing, a response has not been received.

One alternative to purchasing the standard or reading it online is to use either a library or, as stated in the rulemaking, visit one of the locations designated by the government for standards incorporated by reference into the Federal Register. Since the two federal reading rooms are located in Washington, D.C., we used the [Worldcat library catalog search service](#) to look for copies that might perhaps be closer to our California offices. A search uncovered a total of seven copies in the United States of the Fifth Edition, as shown in [Table 2](#). The closest copies are 1,877 miles away.

**Table 2: The Seven Copies of UL 325 (Fifth Edition) in Public Libraries and Reading Rooms**

Copy No.	Institution	Location	Distance Away
1	Minnesota Legislative Reference Library	St. Paul, MN 55155	1,887 miles
2	Minnesota State Law Library	Saint Paul, MN 55155	1,877 miles
3	Illinois State Library	Springfield, IL 62701	2,076 miles
4	University of Wisconsin - Madison, General Library System	Madison, WI 53706	2,035 miles
5	CDM Smith Infocenter	Boston, MA 02109	3,092 miles
6	CPSC Headquarters	Bethesda, MD 20814	2,795 miles
7	Office of the Federal Register	Washington, DC 20001	2,804 miles

When a standard is incorporated into the federal register by an agency such as the CPSC, the Office of the Federal Register requires that one copy be placed in a public reading room by the agency and a second copy be placed at the Office of the Federal Register and that the addresses be specified in the final rulemaking notice in the Federal Register and consequently in the Code of Federal Regulations section which details the incorporation ([1 CFR 51.9\(b\)\(4\)](#)). However, because UL 325 was incorporated by Congress such information is not provided and we are not able to ascertain if those standards are in fact in the reading rooms of either the CPSC or the Office of the Federal Register.

As an alternative to purchasing the standard for \$1000 or traveling 1,887 miles to inspect one at a public library, Public Resource submitted a Freedom of Information Act request for the document from the CPSC. [7] On September 23, 2015, CPSC denied the FOIA request, stating:

*Please be advised that the standards you requested constitute copyrighted material that the Commission is not at liberty to release to the public. The standards are available for purchase by contacting Underwriters Laboratories, Inc. (UL). [8]*

The Freedom of Information Act is quite specific about denials of requests. The FOIA requires agencies to release requested records unless those records fall with one of nine specified exemptions as detailed in [5 U.S.C. § 552\(a\)\(3\), \(b\)](#). The Code of Federal Regulations states very clearly that a “response denying a written request for a record” must include a “reference to the specific exemption or exemptions under the Freedom of Information Act authorizing the withholding of the record” ([16 CFR § 1015.6\(b\)\(2\)](#)). On October 2, 2015, Public Resource appealed the denial of the FOIA request. [9] On November 2, 2015, Public Resource received an interim response from the CPSC. The interim stated:

*Confidential commercial information is protected from disclosure by CPSC under two provisions of the FOIA. First [Section 552\(b\)\(4\)](#) of the FOIA specifically exempts trade secrets and confidential commercial information from disclosure (“Exemption 4”). See also [§ 5 C.F.R. 1015.16\(d\)](#). Second, the FOIA also exempts from disclosure records that are specifically exempted from disclosure by another statute. 5 U.S.C. § 552(b). See also 5 C.F.R. § 1015.16(c). [Section 6\(a\)\(2\)](#) of the Consumer Product Safety Act (“CPSA”) expressly prohibits the disclosure of information reported to or otherwise obtained by the Commission which contains or relates to trade secrets or other confidential commercial information. [10]*

The CPSC interim status response goes on to state that the FOIA officer will “follow the procedures prescribed by the CPSA and will evaluate any claims of trade secret or commercial information” citing the provisions of Executive Order 12600 [11]. That order requires that agencies establish procedures to notify submitters of records containing confidential information when those records are requested under FOIA. In other words, CPSC will ask Underwriters’ Laboratories if it considers UL 325 to be “confidential commercial information.”

As of the submission date of this filing, a response has not been received.

One last option is the Underwriters’ Laboratories reading room, discussed in more detail in the next section. Perhaps for the same reasons CPSC does not list it in the CFR as being present in their physical reading room, UL does not include it in their online facility.

Reading the standard on the UL web site, purchase of the standard, a FOIA request, and a library all proved fruitless. However, in researching this comment, Public Resource stumbled across extracts of the entrapment provisions of UL 325 from the February 25, 2000 version of the standard in a CPSC staff briefing packet posted on the CPSC web site. [12] Public Resource has also [posted that document on our web site](#) for public inspection. The rule at the time mandated the Fourth Edition of UL 325, which was issued January 1, 1995. Examining the extract posted by CPSC, one can see that there are a number of revisions to that standard that were incorporated over time.

UL 325 undergoes periodic substantive revisions between major editions, as can be seen in [Table 3](#). In the first column are the revisions listed, with links to the Document Center entry for each revision. Interspersed with the document revisions, we have included the major CPSC rulemakings. As can be seen, changes occur before, after, and even during rulemaking procedures. In Column 3, we list whether specific case-by-case permission is needed from Underwriters’ Laboratories to purchase a copy. Currently, only the Sixth Edition is available for purchase without filling out a special form.

**Table 3: Revisions of UL 325, Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems**

Revision Log	Revision Date	Permission From UL Required
3RD EDITION - DOOR, DRAPERY, GATE, LOUVER	1988-09-18	YES
<i>CPSC: Initial Promulgation of the Rule (57 FR 60455)</i>	<i>1992-12-21</i>	
<a href="#">4TH EDITION - DOOR, DRAPERY, GATE, LOUVER</a>	1995-01-01	YES
<a href="#">CHANGE 8/95 - CHANGE 8/95 FOR 1995 EDITION</a>	1995-08-08	YES
<i>CPSC: Revision of the Rule (62 FR 46667)</i>	<i>1997-09-04</i>	
<a href="#">1995 R97 EDITION - REAPPROVED 1997</a>	1997-11-01	YES
CHANGE 2/00 - REVISION CHANGE	2000-02-25	YES
<i>CPSC: Notice of Revision of the Rule (65 FR 37318)</i>	<i>2000-06-14</i>	
<i>CPSC: Revision of the Rule (65 FR 70656)</i>	<i>2007-11-27</i>	
<a href="#">CHANGE 6/01 - DOOR, DRAPERY, GATE, LOUVER</a>	2001-06-11	YES
<a href="#">5TH EDITION - DOOR, DRAPERY, GATE, LOUVER</a>	2002-06-07	YES

Table 3: Revisions of UL 325, Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems

Revision Log	Revision Date	Permission From UL Required
<a href="#">CHANGE 1/06 - REVISION CHANGE</a>	2006-01-17	YES
<a href="#">CHANGE 2/09 - REVISION CHANGE</a>	2006-02-21	YES
CPSC: Notice of Revision of the Rule (72 FR 2217)	2007-01-18	
<a href="#">CHANGE 8/07 - REVISION CHANGE</a>	2007-08-29	YES
CPSC: Revision of the Rule (72 FR 54816)	2007-09-27	
<a href="#">CHANGE 1/09 - REVISION CHANGE</a>	2009-01-14	YES
<a href="#">CHANGE 6/09 - REVISION CHANGE</a>	2009-06-10	YES
<a href="#">CHANGE 12/09 - REVISION CHANGE</a>	2009-12-23	YES
<a href="#">CHANGE 2/10 - REVISION CHANGE</a>	2010-02-25	YES
<a href="#">CHANGE 11/10 - REVISION CHANGE</a>	2010-11-03	YES
<a href="#">CHANGE 4/11 - REVISION CHANGE</a>	2011-04-25	YES
<a href="#">CHANGE 10/11 - REVISION CHANGE</a>	2011-10-13	YES
<a href="#">CHANGE 1/12 - REVISION CHANGE</a>	2012-01-12	YES
<a href="#">6TH EDITION - DOOR, DRAPERY, GATE, LOUVER, WINDOW</a>	2013-10-14	NO
<a href="#">CHANGE 06/13 - REVISION CHANGE</a>	2013-06-03	NO
<a href="#">CHANGE 5/15 - REVISION CHANGE</a>	2015-05-26	NO

Despite the clear requirements of the congressional mandate, Underwriters' Laboratories apparently does not notify the CPSC of each revision and the CPSC clearly does not amend the rule each time the document is revised. Even more disturbing, the rule does not take into account these revisions and simply lists the original publication date of the major edition that was the subject of the rulemaking.

For example, the September 27, 2007 final rule ([72 FR 54816](#)) which includes the text that is the current version of the rule, specified a February 21, 2008 effective date specified by Underwriters' Laboratories in the standard. Yet, after that date, eight more revisions were published.

When one purchases UL 325 (should one be granted permission), one can only get the latest version. But, which version of the standard is really the law? It is impossible to tell which of the many revisions is the specific document mandated by Congress and implemented by CPSC. This is a major defect in the rule. A precise version needs to be

specified for any incorporation into the Code of Federal Regulations, even one deemed by Congress, to be effective.

## **5. Incorporation by Reference of Three Additional UL Standards**

UL 325 has references to three other Underwriters' Laboratories standards, and the CPSC has incorporated all 3 of those by reference:

- UL 991, Standard for Safety for Tests for Safety-Related Controls Employing Solid-State Devices, Third Edition, dated October 22, 2004.
- UL 1998, Standard for Safety for Software in Programmable Components, Third Edition, dated December 18, 2013.
- UL 746C, Standard for Safety for Polymeric Materials—Use in Electrical Equipment Evaluations, Sixth Edition, dated September 10, 2004.

There are two major issues with these three incorporations. First, it is ambiguous which standard is actually being incorporated. Second, the named standards are not readily available during the notice of proposed rulemaking period and, if the final rule is issued, will have arbitrary and inappropriate restrictions on their use by members of the public.

In [Table 4](#), the revisions of UL 746C are listed. Although the rulemaking specifies the September 10, 2004 standard, there are 11 additional revisions, all of them substantive. It is unclear which version of the standard is being incorporated by reference.

**Table 4: Revisions of the Sixth Edition of UL 746C  
Standard for Polymeric Materials - Use in Electrical Equipment  
Evaluations**

Revision	Date
<a href="#">6TH EDITION - POLYMERIC MATERIALS</a>	2004-09-10
<a href="#">CHANGE 2/2006 - REVISION CHANGE</a>	2006-02-20
<a href="#">CHANGE 8/2009 - REVISION CHANGE</a>	2009-08-19
<a href="#">CHANGE 9/09 - REVISION CHANGE</a>	2009-09-18
<a href="#">CHANGE 4/10 - REVISION CHANGE</a>	2010-04-06
<a href="#">CHANGE 7/10 - REVISION CHANGE</a>	2010-07-13
<a href="#">CHANGE 10/10 - REVISION CHANGE</a>	2010-10-28
<a href="#">CHANGE 3/12 - REVISION CHANGE</a>	2012-03-07

Table 4: Revisions of the Sixth Edition of UL 746C  
Standard for Polymeric Materials - Use in Electrical Equipment  
Evaluations

Revision	Date
<a href="#">CHANGE 02/13 - REVISION CHANGE</a>	2013-02-06
<a href="#">CHANGE 08/13 - REVISION CHANGE</a>	2013-08-29
<a href="#">CHANGE 10/14 - REVISION CHANGE</a>	2014-10-16
<a href="#">CHANGE 06/15 - REVISION CHANGE</a>	2015-05-23

The Office of the Federal Register has detailed rules for incorporation by reference. In particular [1 CFR § 51.9](#) requires that a specific version of a standard proposed for incorporation be specified. Examples of proper incorporations can be found in these U.S. Coast Guard rules at [40 CFR 160.076-11](#):

1. *UL 1123, UL Standard for Safety for Marine Buoyant Devices, Seventh Edition including revisions through February 14, 2011, (dated October 1, 2008), (“UL 1123”), incorporation by reference approved for [§ 160.076-35](#).*
2. *UL 1180, UL Standard for Safety for Fully Inflatable Recreational Personal Flotation Devices, Second Edition including revisions through December 3, 2010, (dated February 13, 2009), (“UL 1180”), incorporation by reference approved for [§§ 160.076-7; 160.076-9; 160.076-21; 160.076-23; 160.076-25; 160.076-31; 160.076-37; and 160.076-39](#).*
3. *UL 1191, UL Standard for Safety for Components for Personal Flotation Devices, Fourth Edition including revisions through August 24, 2011, (dated December 12, 2008), (“UL 1191”), incorporation by reference approved for [§§ 160.076-21; 160.076-25; 160.076-29; and 160.076-31](#).*

The CPSC rulemaking states:

*The Office of the Federal Register (“OFR”) has regulations concerning incorporation by reference. 1 CFR part 51. The OFR recently revised these regulations to require that, for a proposed rule, agencies must discuss in the preamble to the NPR, the ways that the materials the agency proposes to incorporate by reference are reasonably available to interested persons or how the agency worked to make the materials reasonably available.*



The rulemaking then goes on to state that “the UL standards, may be obtained online at: <http://ulstandards.ul.com/>.” The “free” reading room that UL provides to inspect standards incorporated by reference does not include UL 325.

Unfortunately, when it comes to the three standards being incorporated, the Underwriters’ Laboratories reading room does not provide access to the correct versions:

- For UL 746C, the proposed incorporation is for the Sixth Edition, however, the reading room only has Fourth Edition dated December 27, 1995 with no subsequent revisions.
- For UL 1998, the proposed incorporation is for the Third Edition of the standard, however the reading room only has the Second Edition dated May 28, 1998 without the May 1, 2004 or October 28, 2008 revisions.
- For UL 991, the proposed incorporation is for the Third Edition, however the reading room only has the Second Edition dated June 3, 1995 without the August 11, 2000, July 29, 1998, and November 11, 1996 revisions.

Before one can access the reading room at UL, the reader must agree to strict terms of use:

*GRANT OF LICENSE. UL grants you, the Visitor, a nonexclusive and nontransferable license to view the content of the Online Standard online solely due to the Online Standard having been referred to in the United States Code of Federal Regulations. The Online Standard is designed to be viewed online only - there are no "print," "save," "download," or "cut and paste" options - and the license granted to you by this agreement does not include the right to download, reproduce, store in a retrieval system, print, modify, make available on a network, use to create derivative works, or transmit the content of the Online Standard in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise.*

*COPYRIGHT. You acknowledge that the content of the Online Standard is copyrighted and owned by UL and is protected by U.S. copyright law and international treaty provisions. [13]*



Once in the reading room, each time a standard is accessed the reader must accept the terms of service anew and then the document is watermarked on each page with the reader's name, and their usage is tracked.

Even if one is able to purchase a copy of the standard instead of using the reading room, the designated vendors impose additional terms of use. For example, the Document Center requires that any quotations, no matter how brief, be individually improved by the vendor:

*If you would like to quote a standard in your internal specifications, please contact us so that you can get authorization from the copyright holder for this type of usage. [14]*

As discussed at length in our previous comment to the CPSC (see [CPSC-2015-0019-0009](#)), these prohibitions against reading and speaking the law are directly contrary to public policy and long-standing judicial precedent. The Office of the Federal Register requires any incorporation to be “in fact available ... with maximum convenience to the user.” ([1 CFR 51.9\(4\)](#)). The standards at issue in this section have not been made properly available during the Notice of Proposed Rulemaking and, if the rule is adopted, will not in fact be available to citizens as required by law.

## **6. Incorporation by Reference of the DASMA Standard**

In addition to the three Underwriters' Laboratories standards, the CPSC proposes to incorporate by reference a standard created by the Door and Access Systems Manufacturers' Association (DASMA), ANSI/DASMA 102-2004, *Specification for Sectional Doors*. The notice of rulemaking [specifies a URL to access the standard](#), but unfortunately, the URL that the CPSC lists returns a “page not found” error from the DASMA web server. Some investigation yielded the information that DASMA does not have the 2004 version of this standard on their web site, but does have an easily accessible version of ANSI/DASMA 201-2011, [Specifications for Sectional Doors](#). While DASMA does not have the 2004 standard on their web site now, a search on the Internet Archive's Wayback Machine indicates that the standard was last seen on [September 19, 2015](#).

Public Resource called the technical director and the general counsel of DASMA and asked about this. It was our impression that perhaps DASMA had not been contacted

by the CPSC indicating that one of their standards was about to be incorporated by reference. Public Resource did a careful comparison of the 2004 and 2011 standards and they are virtually identical with three non-substantive changes:

1. The paragraph describing the ANSI status of the document in the foreword is slightly different.
2. There was a reference to ANSI/ASMA B18.6.2 (*Slotted head cap screws, square head set screws, and slotted headless set screws*) in the “Referenced Standards” section of the 2004 specification, but that standard was never actually used in the body of the specification. That reference was dropped in the 2011 specification.
3. The 2004 standard has a chart of steel gauge sizes in the specification. In the 2011 specification, the chart is no longer in the document is instead referenced externally with the [DASMA Technical Data Sheet #154](#).

There is no reason to be incorporating the 2004 specification, however since it is part of the notice of proposed rulemaking, Public Resource asked DASMA for permission to append the 2004 version to our comment since it is not readily available on either the CPSC or DASMA web sites. DASMA kindly gave us permission to do so. Public Resource has posted this document in both [HTML](#) and [PDF](#) formats.

The DASMA 102 standard was not created in a vacuum. CPSC staff met frequently with DASMA officials and asked them to revise the standard “to reduce the number of finger injuries, including amputations and fractures caused when consumers get their hands caught between the sections of garage doors.” [15] On October 8, 1999, DASMA reported back to CPSC in a meeting at CPSC headquarters with a new standard, DASMA 116, which in turn forms an integral part of DASMA 102. [16] [17]

The DASMA approach to making standards available for public inspection is markedly different than the other standards bodies discussed in this comment. All 15 of their standards [are readily accessible](#) on the DASMA web site as are [118 technical data sheets](#). DASMA does have a copyright notice on their standards, but remember that none of these standards are incorporated into law and any private voluntary standard that is not the law is entitled to assert copyright to the extent that those assertions are valid. It is only when the documents become part and parcel of the Code of Federal Regulations that the standard becomes the law and is considered to be an edict of government.

The DASMA approach is not unique among standards bodies. In our comment before the U.S. Access Board rulemaking on accessibility, we pointed to several standards from bodies such as the International Telecommunication Union and the Internet Engineering Task Force that are freely available for use. [18] As part of that comment, Public Resource submitted as supplementary materials two examples of how documents could be easily transformed into more accessible formats:

- [Request for Comment \(RFC\) 4103](#): Real-Time Transport Protocol Payload for Text Conversation (2005)
- The [proposed Access Board rule](#), transformed into the same format as the standard.

The reader will note that the format of those two documents is very similar to that of the [DASMA 102-2004](#) standard appended to this comment. Public Resource has posted a number of other documents in this format. In our previous comment to the CPSC, we submitted examples of [ASTM F963](#), *Standard Consumer Safety Specification for Toy Safety* as incorporated by [15 U.S.C. §2056b](#), as well as a number of durable infant product safety specifications such as [ASTM F1169](#), *Standard Consumer Safety Specification for Full-Size Baby Cribs*, as mandated by [16 CFR 1219](#). In comment [BSEE-2014-0002-0013](#) to the Bureau of Safety and Environmental Enforcement, Public posted [API 2C](#), *Specification for Offshore Pedestal Mounted Cranes*.

We are not suggesting that this be the only format used for the Code of Federal Regulations and for standards incorporated therein, only that this type of transformation is highly beneficial and should not be discouraged, let alone prohibited without a special license.

This format has several attributes that make it quite useful for a number of applications that are not possible with present CFR web sites and with the many differing formats we see for the standards incorporated by reference:

- First and foremost, the document format we are using is significantly more accessible to people with visual impairments. It is a requirement of federal law under Section 508 of the Rehabilitation Act that materials which are used on a daily basis by federal workers and the public be made accessible. This is especially true for the law that federal workers must enforce and citizens must obey. [19]

- The text is set in a fluid design instead of the fixed-width of a PDF document. That means that on screens of different sizes, such as a mobile phone or a tablet, the documents are much more easily read.
- Each section number, table, figure, and equation has a well-formed identifier, meaning that links into specific sections of a standard may be easily created for bookmarks, hyperlinks from other standards or laws, and internal crosslinks.
- Any formulas are recoded into the MathML markup language so they can be more easily spoken and more readily displayed on multiple browsers and in word processing programs.
- The markup we use is simple and well-structured, meaning that further transformations are possible by other people who wish to create derivative works.
- The documents are available on a secure web site and bulk access is readily available, so it is possible for other people to access multiple documents and create their own web sites.

Imagine if you will if the entire text of the Code of Federal Regulations and all standards incorporated by reference are coded in a common format and made readily available and accessible for people to use! This would hugely beneficial not only to the public, but to the federal workers who live and breathe the code on a daily basis.

DASMA is to be applauded for their approach to making standards available, but they are certainly not the only ones. The Internet was built on open standards from groups such as the ITU, the IETF, and the W3C. But, this approach works well in the physical world as well. In our comment on the Plastic Pipe Making rulemaking by PHMSA, Public Resource noted that the Plastic Pipe Institute makes [all their technical reports](#) readily available free of charge. [20] There are many other examples of nonprofit Standards Development Organizations (SDOs) who view it as penny-wise and pound-foolish to reduce the spread of the important public safety information they create by discouraging use and imposing restrictions and fantastical prices.

When legal codes are stripped of artificial restrictions on use, governments throughout this country have been amazed at the efforts of local civic groups and volunteers to make the codes better. We have seen this effect when sites have been built at no charge to government for the Federal Register ([federalregister.gov](http://federalregister.gov)) and the codes of

governments such as the District of Columbia ([dccode.org](http://dccode.org)), Chicago ([chicagocode.org](http://chicagocode.org)), Virginia ([vacode.org](http://vacode.org)), and many others.

In these times of tight budgets, government cannot afford to tell volunteers not to make the law more accessible. Likewise, standards development organizations are being foolish when they shut public safety codes off from innovation that costs them nothing and helps them fulfill their mission more effectively.

## 7. The National Electrical Code: This Code is Law!

Throughout the United States, the National Electrical Code is the law of the land. The CPSC proposes to incorporate by reference the 2014 edition of the National Electrical Code, a document coordinated by the National Fire Protection Association, a nonprofit standards development organization.

In [Table 5](#), federal incorporations of the National Electrical Code are listed. Note that the CPSC already incorporates the National Electrical Code three times, each incorporation being a different edition.

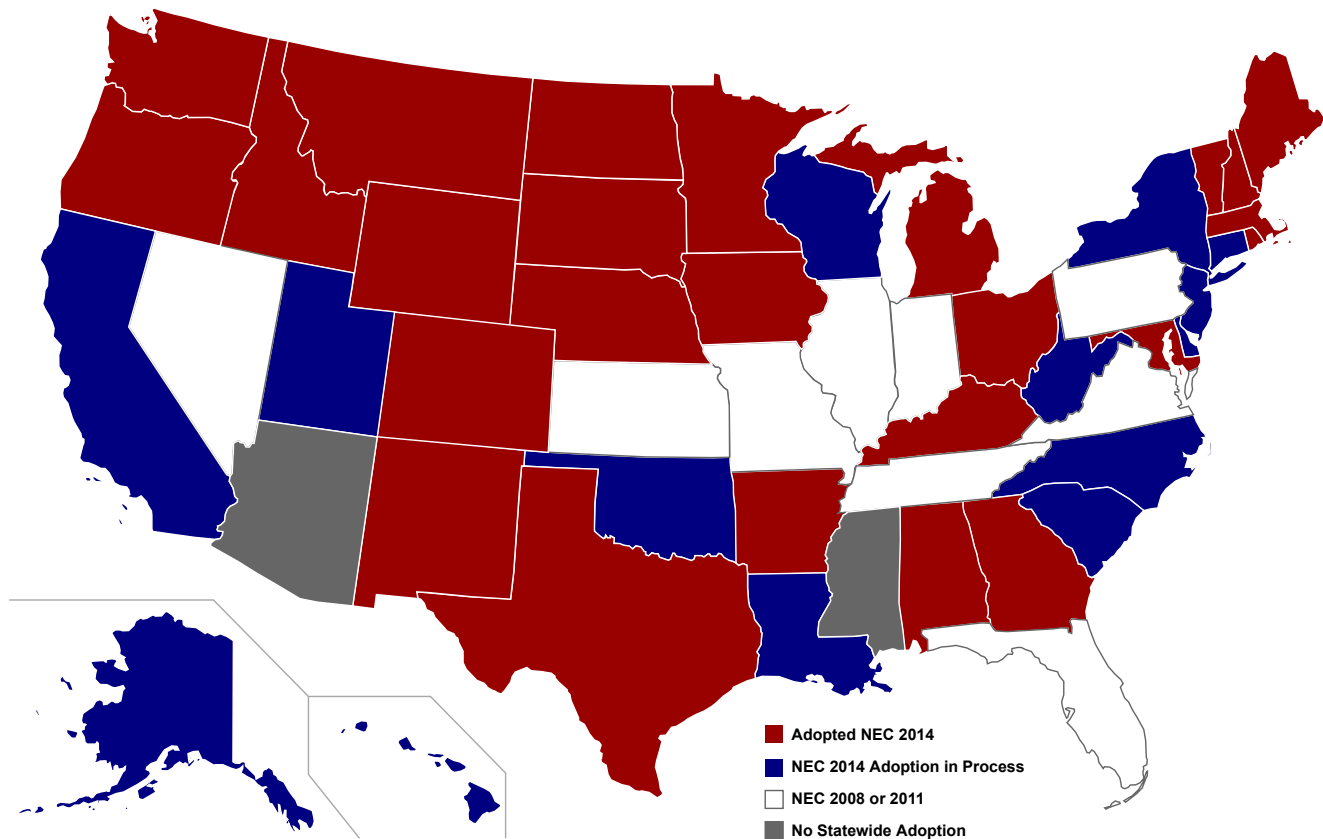
**Table 5: Incorporation of the National Electrical Code Into the Code of Federal Regulations**

Agency	CFR	NEC Year	Area of application
CPSC	<a href="#">16 CFR 1505.5(h)</a>	1971	Strain relief on flexible cords.
	<a href="#">16 CFR 1505.5(e)</a>	1978	Electrical power cords on toys
	<a href="#">16 CFR 1211.2(c)</a>	1999	Garage door operators
OSHA (Dept. of Labor)	<a href="#">29 CFR 1926.402</a>	1984	Construction work*
	<a href="#">29 CFR 1910 Subpart S</a>	2002 2005	Electrical safety*
Veterans Administration	<a href="#">38 CFR 39.63</a>	2002	Architectural design standards.
MSHA (Dept. of Labor)	<a href="#">30 CFR 57.12047</a>	1968	High-voltage transmission lines
Department of Energy	<a href="#">10 CFR 440 Appendix A</a>	1993	Boiler duty cycle control systems
PHMSA	<a href="#">49 CFR 192.7</a>	2008	Compressors
Public Health Service (Dept. HHS)	<a href="#">42 CFR 52b.12(c)</a>	1996	Construction of facilities
Rural Utilities Service (USDA)	<a href="#">7 CFR 1755.500(b)</a>	1999	Boat yards
	<a href="#">7 CFR 1755.503</a>	1999	Customer service installations

Table 5: Incorporation of the National Electrical Code Into the Code of Federal Regulations

Agency	CFR	NEC Year	Area of application
	<a href="#">7 CFR 1755.504</a>	1999	Demarcation points
	<a href="#">7 CFR 1755.505</a>	1999	Buried services
	<a href="#">7 CFR 1755.506</a>	1999	Ariel wire services
	<a href="#">7 CFR 1755.508</a>	1999	Customer access location protection
	<a href="#">7 CFR 1755.509</a>	1999	Mobile homes
	<a href="#">7 CFR 1755.870</a>	1993	Terminating cables
U.S. Coast Guard	<a href="#">33 CFR 126.5</a>	1996	Designated waterfront facilities
	<a href="#">33 CFR 127.003</a>	1993	Liquified natural gas transfer
	<a href="#">33 CFR 154.106</a>	1987	General safety requirements
	<a href="#">33 CFR 154.106</a>	2011	Vapor control systems
	<a href="#">33 CFR 183.5</a>	1987	Boats and associated equipment
	<a href="#">46 CFR 28.40</a>	1990	Commercial fishing vessels
	<a href="#">46 CFR 39.10-5</a>	1987	Vapor control systems
	<a href="#">46 CFR 114.600</a>	1996	Small passenger vessels
	<a href="#">46 CFR 125.80</a>	1993	Offshore supply vessels
	<a href="#">46 CFR 169.115</a>	1980	Sailing school vessels
Federal Housing Administration (Dept. of HUD)	<a href="#">24 CFR 200.925c</a>	1993	Minimum property standards.
	<a href="#">24 CFR 3280.4</a>	2005	Manufactured homes
	<a href="#">24 CFR 3285.4</a>	2005	Model manufactured homes
* OSHA does not formally incorporate these standards by reference but will “deem in compliance” those that meet them.			

It is at the state level, however, that the National Electrical Code truly becomes a national law. In [Figure 1](#), a map of the United States is colored red, white, blue. Red states have already incorporated the 2014 edition of the National Electrical Code into their state laws. The blue states are in the process of incorporating the 2014 version of the National Electrical Code. The white states incorporate the 2008 or 2011 versions of the National Electrical Code. Only two states do not have statewide incorporation, and in those states, it is the local governments that mandate electrical codes, which are invariably the National Electrical Code.



**Figure 1. Map of Statewide Adoptions of the National Electrical Code**

The source of the map in [Figure 1](#) is a coalition created and run by the National Fire Protection Association called the “Electrical Code Coalition” which advocates for the national adoption of the National Electrical Code in every jurisdiction. [21] That the National Electrical Code has become the universal law in the United States is no accident, it is the very purpose of the drafting of these documents. Each edition of the National Electrical Code has information to assist governments (known as an “authority having jurisdiction”) in the incorporation of the code into law.

This code is truly meant to be law. In the 2014 edition of the National Electrical Code, Annex H is devoted to Administration and Enforcement and includes numerous sample clauses that can be cut and pasted into municipal ordinances or state regulations. For example:

*80.11 Occupancy of Building or Structure.*

- A. New Construction. No newly constructed building shall be occupied in whole or in part in violation of the provisions of this Code.



B. Existing Buildings. Existing buildings that are occupied at the time of adoption of this Code shall be permitted to remain in use provided the following conditions apply:

1. The occupancy classification remains unchanged
2. There exists no condition deemed hazardous to life or property that would constitute an imminent danger. [22]

The National Electrical Code is not an ordinary document. It is the work of hundreds of dedicated volunteers. The list of authors in the 2014 National Electrical Code spans 14 pages of small text, and lists 504 names on 19 committees (with people sometimes serving on more than one committee). In fact, the CPSC is a strong contributor and co-author of this document. [Table 6](#) lists a few of the formal contributions CPSC has made to the National Electrical Code process. The last column indicates whether the U.S. government employee signed a copyright assignment form.

**Table 6: Examples of Formal Contributions by CPSC Staff to National Electrical Code Text**

Date	Staff	NEC Version	Subject	Signed Waiver
1997-09-30	William King	70-1999	<a href="#">Power Draw by Appliances</a>	No
1997-09-30	William King	70-1999	<a href="#">Bedrooms</a>	No
1999-08-31	William King	70-1999	<a href="#">Ground-Fault Circuit-Interrupters</a>	No
1999-09-07	William King	70-1999	<a href="#">Lighting/Appliance Circuits</a>	No
1999-09-07	William King	70-1999	<a href="#">Service Equipment in Dwellings</a>	No
2002-10-01	William King	70-2002	<a href="#">Lighting/Appliance Circuits</a>	Yes
2002-10-01	William King	70-2002	<a href="#">GCFI for Personnel</a>	Yes
2002-10-01	William King	70-2002	<a href="#">Expanded ACFI Definition</a>	Yes
2002-10-01	William King	70-2002	<a href="#">Service Equipment</a>	Yes
2002-10-01	William King	70-2002	<a href="#">GCFI for Non-Dwelling Units</a>	Yes
2002-10-01	William King	70-2002	<a href="#">Dwelling Unit Bedrooms</a>	Yes
2005-10-26	Doug Lee	70-2008	<a href="#">Arc Fault Circuit Interpreters</a>	No
2005-10-26	Doug Lee	70-2008	<a href="#">AFCI in Bedrooms</a>	No
2005-10-26	Doug Lee	70-2008	<a href="#">Revisions of Section 210.12(b)</a>	No
2005-10-26	Doug Lee	70-2008	<a href="#">Smoke Alarms</a>	No



Table 6: Examples of Formal Contributions by CPSC Staff to National Electrical Code Text

Date	Staff	NEC Version	Subject	Signed Waiver
2005-10-26	Doug Lee	70-2008	<a href="#">Boat Hoists</a>	No
2005-10-26	Doug Lee	70-2008	<a href="#">Smoke Alarms</a>	No
2008-10-29	Doug Lee	70-2011	<a href="#">GCFI Exception</a>	No
2008-10-29	Doug Lee	70-2011	<a href="#">Mobile Homes</a>	No
2008-10-29	Doug Lee	70-2011	<a href="#">Heavy Appliances</a>	No

As is well known, the work of U.S. government employees has no copyright as their work is in the public domain ([17 U.S.C. § 105](#)). Nonetheless, there is a disturbing pattern of government employees simply signing copyright assignment forms, an invalid action that should be prohibited. In some cases, such as the October 26, 2005 contribution by M. Lee, the government authors strike out the standard copyright language and substitute their own somewhat nebulous non-transfer:

*I hereby grant the NFPA all and full rights in copyright, in this proposal, and I understand that I acquire no rights in any publication of NFPA in which this proposal in this or another similar or analogous form is used. Pursuant to 17 U.S.C. Sec. 105, I cannot transfer copyright rights to work of the U.S. Government. However, since there is no copyright in works of the U.S. Government, you and other members of the public may use the material for any purpose. [23]*

In other cases, the CPSC employees create their own waiver. For example, on September 30, 1997, Mr. King wrote

*I hereby grant NFPA the non-exclusive royalty-free rights, including non-exclusive, royalty-free rights in copyright, in this comment and I understand that I acquire no rights in any publication of NFPA in which this comment in this or another similar or analogous form is used. [24]*

In quite a few cases, the government employees simply assigned copyright, an act far beyond their powers:

*I hereby grant NFPA all and full rights in copyright to this proposal, and I understand that I acquire no rights in any publication of NFPA in which this proposal in this or another similar or analogous form is used. [25]*

Leaving aside the question of the invalid assignment of government copyright for now, let us look at the substance of their contributions. Mr. King's proposals were particularly impressive, and were backed up by extensive use of CPSC incident reports. For example, in a proposed amendment to § 210.8 of the 2002 code cycle for Ground-Fault Circuit-Interrupter Protection for Personnel. Mr. King laid before the committee 18 specific incident reports from the CPSC files that indicated the scope of the problem. Two examples from Georgia give a flavor of these reports:

*Winder, GA. May 29, 1998. A 32-year old female and her 10 year old son electrocuted when they contacted a band saw in the workshop of their home. CPSC Case No. 990316HCC2327.*

*Macon, GA. July 22, 1998. A 39-year old female electrocuted when she touched an antique lamp in the master bedroom of her home. CPSC Case No. 990316HCC2328.*

CPSC staff aggressively and successfully pressed for revisions to the National Electrical Code. In an October 22, 2002 memorandum to his superiors, Mr. King stated:

*CPSC staff has successfully promoted new model code requirements that provide additional GFCI protection at the high-risk electrical outlets in homes and requires GFCIs to be incorporated into several specific products. Today, the National Electrical Code (NEC), NFPA 70, requires receptacle outlets in dwellings for bathrooms, kitchen counters, unfinished basements, crawl spaces, garages, and outdoors to provide GFCI protection. The GFCI is incorporated into the outlet device itself, or as an integral part of the circuit breaker that supplies electricity to the outlet. The NEC also includes GFCI requirements for high-pressure washers and hot tubs. [26]*

A few months later, Mr. King wrote to the senior aides of the CPSC chairman and briefed them on additional proposals “to significantly upgrade the National Electrical Code” by expanding GFCI protection even further in 2005 edition of the code. [27]

On March 10, 2008 and May 29, 2008, the CPSC took the unusual step of sending memoranda to all “Code Making Authorities Considering the Adoption of the 2008 National Electrical Code” urging them very strongly to adopt the 2008 code without any changes. This was a response to some industry lobbyists who were objecting to the use of arc fault circuit interrupters (AFCIs) in all 120-volt, single-phase branch circuits in living areas as well as a requirement for tamper-resistant receptacles in dwellings. [28] [29]

Making the National Electrical Code—and several other NFPA standards—into law is an over-riding aim of the National Fire Protection Association. For the NEC, full-time staff members are assigned to work with code authorities in different regions of the country to assist them in rapidly incorporating new versions into law. When those efforts are successful, NFPA trumpets them with press releases with headlines like this one on August 12, 2014:

***2014 Edition of the National Electrical Code now effective in 12 states;  
Eleven more to come on line by January 2015***

*August 12, 2014 – The National Fire Protection Association (NFPA) today announced that the 2014 edition of the National Electrical Code® (NEC®) is now effective in 12 states: Alabama, Colorado, Idaho, Maine, Massachusetts, Minnesota, New Mexico, Rhode Island, South Dakota, Vermont, Washington and Wyoming. An additional 11 states are set to enforce the 2014 edition in the coming months.*

*The NEC is one of the most widely used codes for the built environment in the world, and sets the standard for safe electrical installation and inspection to protect people and property from electrical hazards. The NEC is adopted and used as the benchmark for safe electrical installations in all 50 states.*

*“We applaud all the states that are enforcing the 2014 edition of the NEC. Their efforts demonstrate a true understanding of the code’s impact on public safety and its value to electrical contractors in saving time and getting their jobs done,” said Mark Earley, NFPA’s chief electrical engineer. “We strongly encourage all states to follow their lead and ensure optimum safety.” [30]*

The effort to incorporate NFPA standards into law goes beyond the electrical code, and extends to numerous other standards. For example, the NFPA recently issued instructions to their members on how to convince “policymakers and legislators” to incorporate NFPA fire sprinkler standards into law, an effort that they featured prominently on their blog and aggressively promoted using social media such as Twitter and Facebook. [31] [32]

Once the NEC becomes law, there are severe penalties for violating the code. In every state, it is unlawful to practice electricity commercially without a license, and that license is based on knowledge of the National Electrical Code and practical work experience centered around the Code.

In California, for example, a General Electrician must have 8000 hours of work experience “installing, constructing or maintaining electrical systems covered by the National Electrical Code” ([8 CCR § 291.1](#)). Working as an electrician without proper certification is a serious matter and is subject to criminal and civil penalties.

These criminal and civil penalties apply not just to electricians, but to anybody who violates the Code in force. In Lakewood, Colorado, a typical example, violations can lead to not only fines but imprisonment for a year:

[14.06.070 Penalties for violations of National Electrical Code](#)

*A. Any person who violates any of the provisions of the code adopted by this chapter or fails to comply therewith, or who violates or fails to comply with any order made thereunder, or who builds in violation of any detailed statement of specifications or plans submitted and approved thereunder or any certificate or permit issued thereunder, and from which no appeal has been taken, or who fails to comply with such an order, as affirmed or modified by the Board of Appeals or by a court of competent jurisdiction, within the time fixed in this chapter, shall severally for each and every violation and noncompliance respectively, be punishable by a fine of not more than one thousand dollars or by imprisonment for not more than three hundred and sixty-five days or by both such fine and imprisonment. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue, and all such persons shall be required to correct or remedy such violations or deficits within a reasonable time, and when not otherwise specified, each day that prohibited conditions are maintained shall constitute a separate offense.*

The National Electrical Code is a law. It is meant to be a law. There is only one way to express this law: if the Code says, for example, in § 210.8 that “the ground-fault circuit-interrupter shall be installed in a readily accessible location” and that provision has been incorporated into state law, that is the only possible way to state that requirement. The code is the definitive statement of the law. This is not a creative work, it is a statement of the facts that are the law.

Even if this were a creative work, it is clear that the work is produced by hundreds of authors, many of them employees of the U.S. Government. The CPSC is a co-author of this work of government and has every right to use it, as do all the other volunteers who contributed to this national code.

The principle goes far beyond the principles of copyright formalities and whether or not the copyright assignments and the works of hundreds of authors somehow formed an exclusive work that the NFPA may control. This code is a national code for ensuring the public safety. It is required throughout the nation and the NFPA has worked assiduously to make the case.

In the United States, the law must be accessible to all to read, but also to speak. It is wrong to require a special license before individuals are allowed to speak the National Electrical Code, creating new and innovative transformations that make the law more accessible to people. Yet, that is exactly what the NFPA maintains should be the case.

The NFPA has created a “free” web site to view their standards, a web site that requires preregistration, subjects the user to monitoring of their usage and unsolicited commercial offers, and is severely limited in functional capabilities, for example prohibiting any printing or downloading of the documents from that site. [33] A condition of access to this site is that the user must agree to terms of use that purportedly prohibit them from exercising to repeat any of the content to their fellow citizens, stating that “all materials on NFPA’s websites are the property of NFPA and may not be copied, reproduced, sold, or distributed without the express permission of the copyright holder.” [34]

This unrealistic and unnecessary desire to maintain exclusive control of an important component of U.S. law is an aim that the NFPA has aggressively pursued. Since 2008, Public Resource has made it a goal of providing better access to public safety codes mandated by the states. In 2012, we expanded our efforts to provide access to safety codes incorporated into federal law. NFPA, along with five fellow plaintiffs and four law firms, have sued Public Resource for posting and transforming documents such as California Title 24, Part 3 (the California Electrical Code) and other documents

mandated by state and federal law. [35] This aggressive prosecution by NFPA creates a huge chilling effect on those wishing to make federal and state law available in new and innovative ways. The CPSC should not contribute to that chill.

The CPSC rulemaking states, on the subject of the incorporation of the National Electrical Code, that “NFPA 70 is copyrighted.” This is a dubious assertion and the CPSC is a co-author of this law. The CPSC should be far more aggressive in taking steps to make sure this law required throughout our country, if it becomes part of the rules of the CPSC, is broadly available to all.

There can be no monopoly on the law in the United States because the law in our country is owned by the people, not by private concerns or government officials. A final rule by the CPSC that mandates a document that is aggressively shielded from public view runs counter to long-standing public policy and is a significant violation of the freedom of speech, due process, and equal protection provisions of the U.S. Constitution.

## **8. Underwriters’ Laboratories’ Lucrative Certification Business**

In 1893, a young electrician named William H. Merrill made his way—joined by a huge number of his fellow Americans—to the great World’s Columbian Exposition in Chicago. He was sent to help debug problems with the automatic fire-alarm service and to check the safety of the electrical installations at the Exposition, an installation unprecedented in scope. He needed some space to test some devices, so he built a little laboratory on top of the Fire Insurance Patrol Station No. 1.

After the Exposition completed, Merrill stuck around Chicago, and by 1901 he incorporated his facility as the Underwriters’ Laboratories. His “label service” provided for initial testing of devices and then periodic re-inspections in the field. By 1915, the Laboratories were issuing 50 million labels a year in 1915 and by 1922, 50 million labels a month. [36]

It has always been true that standards are only a means to an end for Underwriters’ Laboratories, and that end is certification revenue. In a 1928 essay, UL executive W.D.A. Peaslee wrote that “Underwriters Laboratories is not engaged in standardization work as a primary function. It is true that incidental to the performance of the work for which the Laboratories was organized a certain amount of what may be called standardization may be brought about.” [37]



In 1928, a huge amount of standardization activity was pouring out of the industrial societies and congresses, in particular a series of standard safety codes for everything from elevators to ladders. This work was conducted under the auspices of the American Engineering Standards Committee (the predecessor of ANSI), which worked with its partners such as the Laboratories to “give all possibly publicity” to each code, sending copies to trade journals, and to “all national associations and organizations interested in the code, and to as many state and local associations as possible, urging them to give publicity to the code, and offering free copies for distribution among their local chapters or their members.” [38]

Even that stalwart of free enterprise, Herbert Hoover (then the Secretary of Commerce), said that standards were created “solely for a better service to our producers and consumers of the primary necessities and ordinary comforts of life.” [39]

Underwriters’ Laboratories has always guarded their standardization turf carefully from competition by other standards bodies but particularly from competition from the government. In 1914 and 1915, when the National Bureau of Standards issued a series of industrial safety codes, groups such as Underwriters’ Laboratories, the American Mining Congress, and other private bodies “resisted what they perceived as an unwarranted encroachment of federal regulators.” [40]

In 1923, UL had three standards on building materials, 16 on fire-fighting equipment, eight on appliances for use of hazardous substances (such as gas garage heaters), one for chemical, and 39 for electrical. All of these formal standards were endorsed by the Councils and Industry Conferences, formal bodies that Underwriters’ Laboratories established for final vetting of standards. In addition, as with today, the Laboratories maintained a number of unpublished “desk standards,” internal unpublished standards used by the engineers in their work.

In 1923, Underwriters’ Laboratories sold standards for \$1 per copy. [41] The Bureau of Labor Statistics lists the 2015 value of a 1923 dollar as \$13.91, a sharp contrast to the \$1,000 one must actually pay today. [42]

It is instructive to look at the financial returns of Underwriters’ Laboratories for the last decade. It has been a roller-coaster ride for the organization. [Table 7](#) shows the assets, liabilities, revenue, and expenses for the organization. It doesn't take an MBA to notice that revenue quadrupled from \$548 million in 2003 to \$2.077 billion in 2011, then plunged to \$17.2 million in 2012. The drop in revenue can be explained because Underwriters’ Laboratories spun off almost all of their activities into a for-profit subsidiary. [43]

**Table 7: Underwriters' Laboratories Financial Information (Gross Financial Indicators, \$)**

Year	Income	Expense	Profit	Assets	Liabilities
2013 [44]	16,907,419	27,262,734	10,355,315	852,473,314	30,035,767
2012 [45]	17,210,587	24,187,665	6,977,078	852,253,845	19,705,515
2011 [46]	2,077,027,269	793,436,823	1,283,590,446	862,719,079	946,492
2010 [47]	1,046,518,213	776,454,593	270,063,620	1,202,139,957	390,620,319
2009 [48]	895,625,185	715,731,136	179,894,049	1,026,814,027	371,861,050
2008 [49]	961,605,920	780,494,163	181,111,757	837,421,070	333,977,248
2007 [50]	809,119,019	657,877,528	151,241,491	816,749,635	237,873,271
2006 [51]	769,449,307	711,779,617	57,669,690	690,831,154	268,756,899
2005 [52]	676,300,486	644,458,759	31,841,727	645,828,674	290,140,571
2004 [53]	609,562,444	612,489,071	2,926,627	596,813,749	233,454,683
2003 [54]	548,583,715	600,369,427	51,785,712	562,069,062	223,556,958

A glimpse into the finances of the organization can be found in [Table 8](#), which lists executive and CEO compensation, and selected sources of revenue. Executive compensation has been exceedingly generous for the last decade at Underwriters' Laboratories, with CEO compensation going up to \$4.2 million in 2005 and total executive compensation in 2013 of \$16,854,053 consuming 99.68% of total non-profit revenue of \$16,907,419. This is somewhat misleading, because the compensation figures reflect not just the 501(c)(3) nonprofit mother ship which must report to the IRS, but also the opaque underpinnings of the now hidden for-profit subsidiary.

What is clear from [Table 8](#) is that the billion-dollar certification revenue is clearly the driver for the organization, as it always has been. Standards fee revenue, which includes sales of standards, is only 1-2% of certification revenue, and that includes all standards that UL sells, not just the few that have been incorporated by reference.

**Table 8: Underwriters' Laboratories Financial Information (Selected Revenue and Expense Categories, \$)**

Year	Executive Compensation	CEO Compensation	Standards Fee Revenue	Government Grants Revenue	Safety Certification Revenue
2013	16,854,053	1,990,758	14,657,164	600,125	—nr—
2012	18,018,002	2,137,062	16,168,719	705,087	—nr—
2011	16,332,656	1,958,832	—nr—	1,451,079	832,579,721
2010	16,422,159	1,846,030	—nr—	—nr—	939,391,192
2009	18,775,987	2,075,984	—nr—	1,296,545	811,720,710



Table 8: Underwriters’ Laboratories Financial Information (Selected Revenue and Expense Categories, \$)

Year	Executive Compensation	CEO Compensation	Standards Fee Revenue	Government Grants Revenue	Safety Certification Revenue
2008	15,720,417	1,778,889	–nr–	1,183,189	874,867,867
2007	11,086,370	1,918,986	–nr–	–nr–	732,751,367
2006	8,644,388	950,690	–nr–	–nr–	708,867,826
2005	8,651,077	–nr–	–nr–	–nr–*	637,169,277
2004	11,912,444	4,018,247	–nr–	–nr–	561,265,745
2003	8,653,254	1,665,817	–nr–	–nr–	508,830,902

*nr* not recorded

\* No CEO salary is listed for 2005. The highest paid employee that year was S. Joe Bhatia who received \$743,793 in compensation for a 40-hour work week. Mr. Bhatia is currently the CEO of ANSI, where he received \$1,069,725 for 35 hours per week of employment. [55]

There has always been a question as to whether or not Underwriters’ is a nonprofit charity, or simply a business. In fact, when the organization first applied for 501(c)(3) status from the IRS, it was turned down, and they then brought the IRS into federal court. The court ruled that Underwriters’ Laboratories did not qualify as a charity:

*This does not sound like charity to us. If it is charity, it began at home. It was not the public interest that prompted the establishment of the petitioner. It was financial gain and business advantage. The primary concern of the petitioner was that of its membership, made up almost entirely of insurance companies, and the manufacturers who paid its ample fees. Whatever benefit inured to the public was only incidental to the primary concern. An institution that operates primarily for the benefit of private parties and only incidentally for the public is not a charitable institution in fact or within the meaning of the statute under consideration. [56]*

Underwriters’ Laboratories finally did get their nonprofit status in 1954 when Congress specifically amended the Internal Revenue Code to include “testing for public safety.” [57]

The focus on profits has drawn continued fire over time. In 1999, a group of fire chiefs, troubled by the unsafe nature of products that nonetheless had a UL label, considered challenging the nonprofit status of the Laboratories:

*There's no question that UL-approved products, such as Christmas lights, are safer than ones that don't have the mark, and even UL's sharpest critics say the not-for-profit company provides a valuable service. But many federal safety officials, local firefighting officials, building-code administrators and international fire investigators say they are increasingly troubled that the gold standard of safety signified by the UL mark is falling short in an era when Americans increasingly put their faith in devices purported to save time and lives.*

*"We're having more problems than we had before," said David Smith, president of Associated Fire Consultants, an Arizona fire-investigation firm. "A lot of products seem to be hitting the market that are not fire safe but have been through UL." [58]*

Outside scrutiny is not welcomed by these standards bodies, even those who work hand-in-glove with the government with the intent of making their products into binding law. As a noted academic remarked in one of the leading case studies of standards making:

*A major problem encountered during the fieldwork, but not anticipated in designing the research, was access. As it turned out, initial contacts with Underwriters Laboratories were met with suspicion and an assertion that UL would not permit its engineers to be interviewed. The NFPA, which professes openness, was also hesitant about providing certain documents and allowing attendance at subcommittee meetings. [59]*

Certification is a big business, and Underwriters' Laboratories faces competition from many for-profit and non-profit groups. Internationally, the British Standards Institution, for example, booked 2014 certification revenue of £202.6 million (\$308.6 million), 71% of their total revenue stream. [60] In the US, the Laboratories faces numerous other competitors.

The rule for garage door operators gives a special privileged position, stating in [16 CFR § 1211.17\(b\)](#) (statutory labeling requirement) that "the display of the UL logo or listing mark, and compliance with the data marking requirements of UL-325 now stated in § 1211.5 of this subpart, on both the container and the system, shall satisfy the requirements of this subpart." This is a huge marketing advantage.

Because of that privileged position under statute, Underwriters' Laboratories faces very few competitors in the garage door operator certification business since other providers. Public Resource wrote to one of the only other certification labs that tests to the UL 325 standard, [the Intertek Group](#), and asked how much it might cost a small business to submit their product for certification. We were informed that basic testing for one or two models typically runs \$20,000 to \$25,000.

Underwriters' Laboratories faces a fundamental conflict of interest with its current policy of limiting distribution of safety standards by high prices and onerous terms of use. Limiting distribution of standards hurts its competitors, but it also hurts the public safety. When the government mandates a public safety standard, it is crucial that the public, journalists, watchdogs, government employees, and even commercial competitors be given unfettered access to the requirements of the law.

This problem is acute for the CPSC, but it runs across the government. In [Appendix A](#), we have listed 103 incorporations by reference of Underwriters' Laboratories standards across the government. These 103 incorporations represent 93 unique standards. Note that this is not a complete list of all federal incorporations due to limitations in the incorporation databases maintained by the Office of the Federal Register and NIST, but it is a substantial fraction.

Of these 103 incorporations, only eight of the documents are available without special permission to purchase which is granted only on a case-by-case basis. Of the 103 incorporations, only 52 of the documents are available in the UL reading room for the public to view (with substantial restrictions on that viewing due to terms of use).

The scope of the standards that the federal government has chosen to incorporate by reference clearly indicate that these are subjects that consumers would find of interest. The list includes standards for fireplaces, hot water heaters, smoke detectors, gas-burning appliances for recreational vehicles, ventilation fans, fireplace stoves, wall furnaces, microwaves, electric room heaters, and track lighting systems.

Should not a consumer be able to look at the device in their house and, if they have doubts as to the safety of that device, consult the federally-mandated safety standard to see what it says? Even casual readers without formal training may have an interest in these documents, and the process of enforcing compliance with the law by organizations such as the CPSC cannot be effectively accomplished without the participation of an informed citizenry.

## 9. The Rule Is Not Valid and Runs Contrary To CPSC's Mission

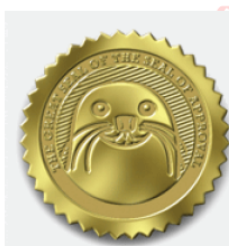
As with the National Electrical Code, when it comes to Underwriters' Laboratories in general, and garage door operators in particular, CPSC is an an integral part of the process and is an author. Prior to the 2007 revision, there were several incidents reported to CPSC where children tried to crawl under a partially opened door and became stuck under the door. A bystander would press the wall control button thinking the door would go up, instead the door went down even further. At the CPSC's request, the new standard reflected a provision that when a door is stopped and the button is pushed, it will always go up. [61]

These standards incorporated into federal law should be available not only because the CPSC is a co-author, they must be available because federal law must be available. This point was forcefully brought home by S. Joe Bhatia, the CEO of ANSI, when he stated "A standard that has been incorporated by reference does have the force of law, and it should be available." [62]

This is not a statement that needs to be qualified or explained. The law must be available for all to read for ignorance of the law is no excuse. This is about much more than one private organization's desire for a revenue stream, it is about the rule of law. We cannot leave the law in the exclusive hands of a private party which may choose to grant the right to speak the law arbitrarily.

It is crucial that the CPSC take steps to make sure that any final rule for garage door operators is a true law, one that we may all freely read and freely speak. It is essential to do so for the rule to be valid; it is essential for the public safety to be protected.

// signed //



Digitally signed by Carl Malamud  
DN: cn=Carl Malamud,  
o=Public.Resource.Org,  
ou,  
email=carl@media.org,  
c=US  
Date: 2015.11.16  
08:10:12 -08'00'

Carl Malamud  
President and Founder  
[Public.Resource.Org](http://Public.Resource.Org)

// sealed //



Mon Nov 23 16:38:06 UTC 2015  
Sebastopol, CA, USA

## 10. Notes

- [1] Five Florida International University Students, Letter to the CPSC, August 15, 2000, contained in CPSC, [Staff Briefing Packet, Revision of Garage Door Operator Standard](#), October 26, 2000, p. 40.
- [2] The Final Rule discussion in 2000 dismissed the Florida students out-of-hand:
- The Commission received one comment on the proposed rule from six students at Florida International University. Their comment discussed generally the entrapment hazard posed by garage doors and precautions that garage door owners should take. They suggested a mandatory standard requiring both an external entrapment-sensing safety device and a constant contact control button. However, this would mean that the consumer would have to stand in the garage at the button until the door is completely closed. Aside from the inconvenience of such a requirement, it is beyond the scope of this rulemaking, the narrow purpose of which is to revise the existing Commission standard to reflect recent changes to UL 325.*
- CPSC, Final Rule, Safety Standard for Automatic Residential Garage Door Operators, [65 FR 70656](#), November 27, 2000.
- [3] Kriel et. al., [Automatic Garage Door Openers: Hazard for Children](#), Pediatrics, October 1996, Volume 98, Issue 4.
- [4] U.S. Congress, Consumer Product Safety Improvement Act of 1990, [H.R.4952](#), referred to Senate on July 16, 1990.
- [5] Public Resource, [Permission form for purchase of the law from Underwriters' Laboratories](#), September 10, 2015.
- [6] IHS Global, [Denial of permission for purchase of the law from Underwriters' Laboratories](#), September 11, 2015.
- [7] Public Resource, [FOIA Request to the U.S. CPSC](#), September 10, 2015.
- [8] CPSC, [Response from U.S. CPSC](#), September 23, 2015.
- [9] Public Resource, [Appeal to the U.S. CPSC](#), October 2, 2015.
- [10] CPSC, [Interim Appeal Response from the U.S. CPSC](#), November 2, 2015.

- [11] Executive Order 12600, [Predisclosure Notification Procedures for Confidential Commercial Information](#), 52 FR 23781, 3 CFR, 1987 Comp., p. 235, June 23, 1987.
- [12] CPSC, [Revision of Garage Door Operator Standard](#), October 26, 2000, Tab C.
- [13] Underwriters' Laboratories, [UL Standards Incorporated By Reference](#), last visited November 10, 2015.
- [14] Document Center, [Copyright Compliance](#), last visited November 10, 2015.
- [15] John Murphy, CPSC, [Log of Meeting on Garage Door Safety](#), April 3, 1998.
- [16] John Murphy, CPSC, [Log of Meeting on Garage Door Safety](#), March 29, 1999.
- [17] DASMA, Standard for Section Interfaces on Residential Garage Door Systems, [ANSI/DASMA 116-2011](#), May 19, 2011.
- [18] Public Resource, Comment [ATBCB-2015-0002-0076](#) submitted on May 25, 2015 to Architectural and Transportation Barriers Compliance Board, Notice of Proposed Rulemaking, Docket No. ATBCB-2015-0002, [80 FR 10879](#), February 27, 2015.
- [19] Section 508 of the Rehabilitation Act ([29 U.S.C. § 794d](#)), as amended by the Workforce Investment Act of 1998 ([Pub. Law 105-220](#)), August 7, 1998.
- [20] Public Resource, Comment [PHMSA-2014-0098-0017](#) submitted on July 24, 2015 to Pipeline and Hazardous Materials Safety Administration, Notice of Proposed Rulemaking, Docket No. PHMSA-2014-0098, [80 FR 29263](#), May 21, 2015.
- [21] NFPA, [NEC® In Effect 9/1/2015](#), Electrical Code Coalition, last visited November 13, 2015.
- [22] NFPA, [National Electrical Code](#), 2014 edition, Page 70-856.
- [23] Doug Lee, CPSC, [Proposal for NFPA NEC-2008 on Arc-Fault Circuit Interrupters](#), October 26, 2005.
- [24] William King, CPSC, [Proposal for NFPA NEC-1999, 422 Part F](#), September 30, 1997.
- [25] William King, CPSC, [Proposal for NFPA NEC-2002, Proposal on Lighting and Appliance Branch Circuits in Dwelling Units](#), October 1, 2002.



- [26] William King, CPSC, [CPSC Staff Proposals for New GFCI Requirements in the National Electrical Code to Reduce the Risk of Electrocuting for Consumers](#), October 22, 2002.
- [27] William King, CPSC, [CPSC Staff Proposals for the National Electrical Code](#), March 18, 2003.
- [28] Andrew M. Trotta, CPSC, [To Code Making Authorities Considering the Adoption of the 2008 National Electrical Code](#), May 29, 2008.
- [29] Andrew M. Trotta, CPSC, [To Code Making Authorities Considering the Adoption of the 2008 National Electrical Code](#), March 10, 2008.
- [30] NFPA, [2014 Edition of the National Electrical Code now effective in 12 states; Eleven more to come on line by January 2015](#), News Release, August 12, 2014.
- [31] NFPA, [How to get home fire sprinklers on the radar of your policymakers and legislators](#), Fire Sprinkler Initiative News, November 9, 2015.
- [32] NFPA, RT [@NFPA\\_FSI](#) How to get home fire sprinklers on the radar of your policymakers & legislators? Some ideas: <http://ow.ly/U43M>, [Tweet ID 664524378386862080](#), November 11, 2015, 11:25AM.
- [33] NFPA, [Free Access NFPA Codes and Standards](#), last visited November 14, 2015.
- [34] NFPA, [Terms of Use](#), last visited November 14, 2015.
- [35] Public Resource is currently being sued by six standards development organizations in two separate cases pending in the U.S. District Court for the District of Columbia over Public Resource's actions to post online standards incorporated by reference into federal regulations. American Society for Testing and Materials et. al. v. Public.Resource.Org, D.D.C. [1:13-cv-01215](#); American Educational Research Association et. al. v. Public.Resource.Org, [1:14-cv-00857](#). In each of case, plaintiffs claim that Public Resource has infringed their copyrights, a charge that Public Resource firmly denies.
- [36] Harry Chase Brearley, *A Symbol of Safety: An Interpretative Study of a Notable Institution Organized for Service—Not Profit*, Doubleday, Page & Co. (New York: 1923), pp. 17-30.
- [37] W.D.A. Peaslee, *The Standardization Activities of Underwriters' Laboratories*, in *American Academy of Political and Social Science, Standards in Industry, Annals*, May, 1928, Vol. CXXXVII, pp. 60-61.

- [38] David Van Schaack, Development of Standard Safety Codes, in American Academy of Political and Social Science, Standards in Industry, Annals, May, 1928, Vol. CXXXVII, pp. 76-77.
- [39] Robert A. Brady, How Government Standards Affect the Ultimate Consumer, in American Academy of Political and Social Science, Standards in Industry, Annals, May, 1928, Vol. CXXXVII, p. 247.
- [40] Andrew L. Russell, "[Industrial Legislatures](#)": [Consensus Standardization in the Second and Third Industrial Revolutions](#), Ph.D. Dissertation, Johns Hopkins University, August, 2007.
- [41] Brearley, A Symbol of Safety, op. cit., Appendix B: The Standards, p 259.
- [42] Bureau of Labor Statistics, [Consumer Price Index Detailed Report](#), September, 2015, Table 24, Historical Consumer Price Index for All Urban Consumers (CPI-U), page 70.
- [43] Underwriters' Laboratories, [Letter to U.S. Nuclear Regulatory Commission](#), December 7, 2011.
- [44] Underwriters' Laboratories, [IRS Form 990 for 2013](#), filed November 13, 2014.
- [45] Underwriters' Laboratories, [IRS Form 990 for 2012](#), filed November 12, 2013.
- [46] Underwriters' Laboratories, [IRS Form 990 for 2011](#), filed November 15, 2012.
- [47] Underwriters' Laboratories, [IRS Form 990 for 2010](#), filed November 14, 2011.
- [48] Underwriters' Laboratories, [IRS Form 990 for 2009](#), filed November 10, 2010.
- [49] Underwriters' Laboratories, [IRS Form 990 for 2008](#), filed November 17, 2009.
- [50] Underwriters' Laboratories, [IRS Form 990 for 2007](#), filed November 10, 2008.
- [51] Underwriters' Laboratories, [IRS Form 990 for 2006](#), filed November 15, 2007.
- [52] Underwriters' Laboratories, [IRS Form 990 for 2005](#), filed November 13, 2006.
- [53] Underwriters' Laboratories, [IRS Form 990 for 2004](#), filed November 14, 2005.
- [54] Underwriters' Laboratories, [IRS Form 990 for 2003](#), filed November 12, 2004.
- [55] ANSI, [IRS Form 990 for 2013](#), filed May 1, 2014. These million-dollar pay-days are not unique to ANSI. The non-profit National Fire Protection Association, for example, listed paying their CEO \$1,024,310 on its [2013 Form 990](#).



- [56] Underwriters' Laboratories v. Internal Revenue Service, [135 F.2d 371](#) (7th Cir. 1943), May 7, 1943.
- [57] U.S. Congress, Internal Revenue Code of 1954, [6A Stat. 133, 26 U.S.C. § 501\(c\)\(3\)](#).
- [58] Caroline E. Mayer, [UL: Still Safety's Symbol? Underwriters Laboratories Draws Fire on Product Tests](#), Washington Post, December 1, 1999.
- [59] Ross E. Cheit, *Setting Safety Standards: Regulation the Public and Private Sectors*, U. of California Press (Berkeley, 1990), p. 36.
- [60] British Standards Institution, [Annual report and financial statements 2014](#), April 9, 2015.
- [61] Jacqueline Elder, CPSC, [Revision of garage door operator standard, 16 CFR 1211](#), December 21, 2006.
- [62] S. Joe Bhatia, ANSI's New IBR Portal Provides Access to Standards Incorporated by Reference, Administrative Conference of the United States Blog, November 4, 2013 quoted in Carl Malamud, [Testimony on Edicts of Government](#), House Judiciary Committee, January 14, 2014.

## **Appendix A. Public Access to 103 Federal UL Incorporations**

This table represents 103 specific incorporations of UL standards into the Code of Federal Regulations. Note that this is not all of the UL standards in the CFR due to errors in the compilations maintained by the NIST [Standards Incorporated by Reference](#) (SIBR) database. In addition, the SIBR database does not reflect incorporations by reference that are done by Congress specifying the rule as opposed to the agency conducting a rulemaking. That means, for example, that UL 325 is not listed.

Of the 103 incorporations that are listed:

- There are 10 examples of a particular standard being incorporated twice. In 5 of those instances, it is the same agency incorporating two different versions of the standard. In the other 5 cases, it is two different agencies.
- Given the 10 double-incorporations, this table represents 93 unique UL standards.
- Of the 103 incorporations, in 52 instances, UL makes the standard available in their reading room for access (with significant limitations on use).
- For 51 of the incorporations, 23 of them are simply not available in the reading room. In 28 other cases, the particular standard is available in the reading room, but it is the wrong version.
- UL has a policy that any standard that is not current requires special permission by the UL legal department for each specific purchase. Of the 103 incorporations listed in this table, only 8 are available for purchase without special permission.

Public Resource would be pleased for the opportunity to work with Underwriters' Laboratories to transform all 93 of these federally-mandated standards into the HTML format we have demonstrated in these and other comments. All diagrams would be carefully transformed into the open SVG format, mathematical formulas would be transformed into the MathML format, and the documents would be fully accessible to those that are visually impaired. Public Resource would be pleased to provide this service at no charge as a service to Underwriters' Laboratories, the federal government, and the people of the United States.

Comment on Safety Standard for Automatic Residential Garage Door Operators

Table A1. Select UL Standards Incorporated By Reference By Federal Agencies

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#">UL 4</a>	<i>Armored Cable</i> 1986 (13th Ed.)	DOE	<a href="#">10 CFR 440</a>	Weatherization Assistance	Yes	No
<a href="#">UL 17</a>	<i>Stack and Damper, Oil-fueled</i> 1988 (2nd Ed.)	DOE	<a href="#">10 CFR 440</a>	Weatherization Assistance	Yes	Yes
<a href="#">UL 19</a>	<i>Lined Fire Hose and Hose Assemblies</i> 1992 (9th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Fire Protection Equipment	Yes	Yes
	1978 (7th Ed.)	DHS/ USCG	<a href="#">46 CFR 169.115</a>	Sailing School Vessels	Yes	No (7th)
<a href="#">UL 30</a>	<i>Metal Safety Cans</i> 1987 (5th Ed.)	DHS/ USCG	<a href="#">46 CFR 147.7</a>	Hazardous Ships Stores	Yes	No (7th)
<a href="#">UL 38</a>	<i>Manually Actuated Signaling Boxes for Use with Fire-Protective Signaling Systems</i> 1994 (6th Ed.)	DHS/ USCG	<a href="#">46 CFR 161.002-1</a>	Fire Protective Systems	Yes	Yes
<a href="#">UL 44</a>	<i>Thermoset-Insulated Wire and Cable</i> 1999 (15th Ed.) 2002 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No
<a href="#">UL 50</a>	<i>Enclosures for Electrical Equipment</i> 1995 (11th Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No
<a href="#">UL 58</a>	<i>Steel Underground Tanks for Flammable and Combustible Liquids</i> 1961 (5th Ed.)	DOL/ OSHA	<a href="#">29 CFR 1910.6</a>	Occupational Safety and Health	Yes	Yes
<a href="#">UL 62</a>	<i>Flexible Cord and Fixture Wire</i> 1997 (16th Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (15th)
<a href="#">UL 80</a>	<i>Steel Inside Tanks for Oil-Burning Fuel</i> 1963 (5th Ed.)	DOL/ OSHA	<a href="#">29 CFR 1910.6</a>	Occupational Safety and Health	Yes	Yes
<a href="#">UL 83</a>	<i>Thermoplastic-Insulated Wires and Cables</i> 1998 (12th Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (8th, 10th)
<a href="#">UL 94</a>	<i>Test for Flammability of Plastic Materials for Parts in Devices and Appliances</i> 1996 (5th Ed.) 2001 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No (4th)
<a href="#">UL 103</a>	<i>Factory-Built Chimneys for Residential Type and Building Heating Appliances</i> 1995 (9th Ed.) 1999 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No (8th)
<a href="#">UL 109</a>	<i>Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service, and Marine Use</i> 1997 (6th Ed.) 2001 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	No	No (5th)

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#">UL 127</a>	<i>Factory-Built Fireplaces</i> 1996 (7th Ed.) 1999 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No (4th)
<a href="#">UL 142</a>	<i>Steel Above Ground Tanks for Flammable and Combustible Liquids</i> 1968 (3rd Ed.)	DOL/ OSHA	<a href="#">29 CFR 1910.6</a>	Occupational Safety and Health	Yes	Yes
<a href="#">UL 174</a>	<i>Household Electric Storage Tank Water Heaters</i>  1989 (9th Ed.) 1994 revisions	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Machinery Installation	Yes	No (6th, 8th)
	1996 (10th Ed.) 1997 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No (6th, 8th)
<a href="#">UL 181</a>	<i>Factory Made Air Ducts and Connectors</i>  1996 (9th Ed.) 2003 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 181A</a>	<i>Safety Closure Systems for use with Rigid Air Ducts and Air Connectors</i> 1994 ( 2nd Ed.) 1998 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No
<a href="#">UL 181B</a>	<i>Safety Closure Systems for use with Flexible Air Ducts and Air Connectors</i> 1995 (1st Ed.) 1998 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No
<a href="#">UL 217</a>	<i>Single and Multiple Station Smoke Detectors</i>  1985 (4th Ed.)	DHS/ USCG	<a href="#">46 CFR 28.40</a>	Commercial Industry Fishing Vessels	Yes	Yes
	1999 (5th Ed.)	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 268</a>	<i>Smoke Detectors for Fire Protective Signaling Systems</i> 1989 (3rd Ed.) 1994 revisions	DHS/ USCG	<a href="#">46 CFR 161.002-1</a>	Fire Protective Systems	Yes	Yes
	1999 (4th Ed.)	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 296</a>	<i>Oil Burners</i> 1989 (8th Ed.)	DOE	<a href="#">10 CFR 440</a>	Weatherization Assistance	Yes	Yes
<a href="#">UL 307A</a>	<i>Liquid Fuel-Burning Heating Appliances for Manufactured Homes and Recreational Vehicles</i> 1995 ( 7th Ed.) 1997 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#">UL 307B</a>	<i>Gas Burning Appliances for Mobile Homes and Recreational Vehicles</i> 1995 ( 4th Ed.) 1998 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No
<a href="#">UL 311</a>	<i>Roof Jacks for Manufactured Homes and Recreational Vehicles</i> 1994 ( 8th Ed.) 1998 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 343</a>	<i>Pumps for Oil-Burning Appliances</i> 1997 (6th Ed.)	DHS/ USCG	<a href="#">46 CFR 63.05-1</a>	Auxiliary Boilers	Yes	Yes
<a href="#">UL 441</a>	<i>Gas Vents</i> 1996 (9th Ed.) 1999 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 484</a>	<i>Room Air Conditioners</i> 1993 (7th Ed.) 2002 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (1st)
<a href="#">UL 486A</a>	<i>Wire Connections and Soldering Lugs for Use With Copper Conductors</i> 1992 (8th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	No (6th)
<a href="#">UL 489</a>	<i>Molded-Case Circuit Breakers and Circuit Breaker Enclosures</i> 1996 (9th Ed.) 2000 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (8th)
	1995 (8th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 507</a>	<i>Ventilation fans: Including Electric Attic, Ceiling, and Whole House Fans</i> 1990 (7th Ed.)	DOE	<a href="#">10 CFR 440</a>	Weatherization Assistance for Low-Income Persons	Yes	No (6th)
<a href="#">UL 514A</a>	<i>Metallic Outlet Boxes</i> 1996 (9th Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (8th)
<a href="#">UL 514B</a>	<i>Conduit, Tubing, and Cable Fittings</i> 1997 (4th Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (2nd)
<a href="#">UL 514C</a>	<i>Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers</i> 1988 (2nd Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	Yes
<a href="#">UL 521</a>	<i>Heat Detectors for Fire Protective Signaling Systems</i> 1993 (6th Ed.) 1994 revisions	DHS/ USCG	<a href="#">46 CFR 161.002-1</a>	Fire Protective Systems	Yes	Yes
<a href="#">UL 569</a>	<i>Pigtail and Flexible Hose Connectors for LP-Gas</i> 1995 (7th Ed.) 2001 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#"><u>UL 595</u></a>	<i>Marine-Type Electric Lighting Fixtures</i> 1985 (7th Ed.) 1991 revisions	DHS/ USCG	<a href="#"><u>46 CFR</u></a> <a href="#"><u>114.600</u></a>	Electrical Installations	Yes	Yes
<a href="#"><u>UL 611</u></a>	<i>Central-Station Burglar-Alarm Systems</i> 1994 (13th Ed.) 1996 revisions	NARA	<a href="#"><u>36 CFR</u></a> <a href="#"><u>1234.3</u></a>	Archival Storage Facilities	Yes	Yes
<a href="#"><u>UL 674</u></a>	<i>Electrical Motors and Generators for Use in Division 1 Hazardous (Classified) Locations</i> 2003 (4th Ed.) 2008 revisions	DHS/ USCG	<a href="#"><u>46 CFR</u></a> <a href="#"><u>111.10-1</u></a>	Electrical Engineering	Yes	No
<a href="#"><u>UL 710</u></a>	<i>Exhaust Hoods for Commercial Cooking Equipment</i> 1990 (4th Ed.) 1993 revisions	DHS/ USCG	<a href="#"><u>46 CFR</u></a> <a href="#"><u>114.600</u></a>	Fire Protection Equipment	Yes	Yes
<a href="#"><u>UL 723</u></a>	<i>Surface Burning Characteristics of Building Materials</i> 1993 (7th Ed.) 1994 revisions	DHS/ USCG	<a href="#"><u>46 CFR</u></a> <a href="#"><u>114.600</u></a>	Construction and Arrangement	Yes	Yes
<a href="#"><u>UL 727</u></a>	<i>Oil-Fired Central Furnaces</i> 1986 (7th Ed.) 1991 revisions	DOE	<a href="#"><u>10 CFR</u></a> <a href="#"><u>440</u></a>	Weatherization Assistance	Yes	Yes
<a href="#"><u>UL 729</u></a>	<i>Oil-Fired Floor Furnaces</i> 2003 (6th Ed.)	DOE	<a href="#"><u>10 CFR</u></a> <a href="#"><u>430.3</u></a>	Energy Conservation for Consumer Products	No	No (3rd)
<a href="#"><u>UL 730</u></a>	<i>Oil-Fired Wall Furnaces</i> 2003 (5th Ed.)	DOE	<a href="#"><u>10 CFR</u></a> <a href="#"><u>430.3</u></a>	Energy Conservation for Consumer Products	No	No (2nd)
<a href="#"><u>UL 737</u></a>	<i>Fireplace Stoves</i> 1996 ( 8th Ed.) 2000 revisions	HUD/ HC	<a href="#"><u>24 CFR</u></a> <a href="#"><u>3280.4</u></a>	Manufactured Homes	Yes	Yes
<a href="#"><u>UL 746c</u></a>	<i>Polymeric Material–Use in Electrical Equipment Evaluations</i> 1995 (4th Ed.)	CPSC	<a href="#"><u>16 CFR</u></a> <a href="#"><u>1211</u></a>	Garage Door Operators	Yes	Yes
<a href="#"><u>UL 823</u></a>	<i>Electrical Heaters for Use in Hazardous (Classified) Locations</i> 2006 (9th Ed.) 2007 revisions	DHS/ USCG	<a href="#"><u>46 CFR</u></a> <a href="#"><u>111.10-1</u></a>	Electrical Engineering	Yes	No
<a href="#"><u>UL 827</u></a>	<i>Central-Station Alarm Services</i> 1996 (6th Ed.) 1999 revisions	NARA	<a href="#"><u>36 CFR</u></a> <a href="#"><u>1234.3</u></a>	Archival Storage Facilities	Yes	Yes

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#"><u>UL 844</u></a>	<i>Luminaires for Use in Hazardous (Classified Locations)</i> 2006 (12th Ed.) 2008 revisions	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	Yes	No
<a href="#"><u>UL 864</u></a>	<i>Control Units for Fire-Protective Signaling Systems</i> 1991 (7th Ed.) 1994 revisions	DHS/ USCG	<a href="#"><u>46 CFR 161.002-1</u></a>	Fire Protective Systems	Yes	Yes
<a href="#"><u>UL 896</u></a>	<i>Oil-Burning Stoves</i> 1993 (4th Ed.) 2003 revisions	DOE	<a href="#"><u>10 CFR 430.3</u></a>	Energy Conservation for Consumer Products	Yes	Yes
<a href="#"><u>UL 912</u></a>	<i>Highway Emergency Signals</i> 1979 (4th Ed.) 1981 revisions	DOT/ FMCSA	<a href="#"><u>49 CFR 393.95</u></a>	Emergency Equipment	Yes	Yes
<a href="#"><u>UL 913</u></a>	<i>Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III Division 1, Hazardous (Classified) Locations</i> 2002 (6th Ed.) 2003 revisions	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	Yes	No (4th)
	2006 (7th Ed.) 2010 revisions	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	Yes	No (4th)
<a href="#"><u>UL 923</u></a>	<i>Microwave Cooking Appliances</i> 2002 (5th Ed.)	HUD/ HC	<a href="#"><u>24 CFR 3280.4</u></a>	Manufactured Homes	Yes	No
<a href="#"><u>UL 991</u></a>	<i>Tests for Safety-Related Controls Employing Solid-State Devices</i> 1995 (2nd Ed.)	CPSC	<a href="#"><u>16 CFR 1211</u></a>	Garage Door Operators	Yes	Yes
<a href="#"><u>UL 1029</u></a>	<i>Safety High-Intensity-Discharge Lamp Ballasts</i> 1994 (5th Ed.) 2007 revisions	DOE	<a href="#"><u>10 CFR 431.323</u></a>	Metal Halide Lamp Ballasts and Fixtures	No	No
<a href="#"><u>UL 1042</u></a>	<i>Electric Baseboard Heating Equipment</i> 1994 (4th Ed.)	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	Yes	Yes
	1994 (4th Ed.) 1998 revisions	HUD/ HC	<a href="#"><u>24 CFR 3280.4</u></a>	Manufactured Homes	Yes	Yes
<a href="#"><u>UL 1056</u></a>	<i>Fire Test of Upholstered Furniture</i> 1989 (1st Ed.)	DHS/ USCG	<a href="#"><u>46 CFR 114.600</u></a>	Construction and Arrangement	Yes	Yes
<a href="#"><u>UL 1058</u></a>	<i>Halogenated Extinguishing System Units</i> 1989 (2nd Ed.) 1994 revisions	DHS/ USCG	<a href="#"><u>46 CFR 114.600</u></a>	Fire Protection Equipment	Yes	No



*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#">UL 1072</a>	<i>Medium-Voltage Power Cables</i> 2001 (3rd Ed.) 2003 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (2nd)
<a href="#">UL 1076</a>	<i>Proprietary Burglar Alarm Units and Systems</i> 1995 (5th Ed.) 1999 revisions	NARA	<a href="#">36 CFR 1234.3</a>	Archival Storage Facilities	Yes	Yes
<a href="#">UL 1096</a>	<i>Electrical Central Air Heating Equipment</i> 1986 ( 4th Ed.) 1988 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	Yes
<a href="#">UL 1102</a>	<i>Non Integral Marine Fuel Tanks</i> 1992 (3rd Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Machinery Installation	Yes	No
<a href="#">UL 1104</a>	<i>Marine Navigation Lights</i> 1981 (1st Ed.) 1998 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	Yes
<a href="#">UL 1110</a>	<i>Marine Combustible Gas Indicators</i> 1981 (1st Ed.) 1988 revisions	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1123</a>	<i>Marine Buoyant Devices</i> 2008 (7th Ed.) 2011 revisions	DHS/ USCG	<a href="#">46 CFR 160.076-11</a>	Life-Saving Equipment	No	No (5th)
<a href="#">UL 1180</a>	<i>Fully Inflatable Recreational Personal Flotation Devices</i> 2009 (2nd Ed.) 2010 revisions	DHS/ USCG	<a href="#">46 CFR 160.076-11</a>	Life-Saving Equipment	Yes	No (1st)
<a href="#">UL 1185</a>	<i>Portable Marine Fuel Tanks</i> 1978 (2nd Ed.) 1984 revisions	DHS/ USCG	<a href="#">46 CFR 147.7</a>	Hazardous Ships Stores	Yes	Yes
<a href="#">UL 1191</a>	<i>Components for Personal Flotation Devices</i> 2008 (4th Ed.) 2010 revisions	DHS/ USCG	<a href="#">46 CFR 160.076-11</a>	Life-Saving Equipment	No	No (2nd)
<a href="#">UL 1196</a>	<i>Floating Waterlights</i> 1987 (2nd Ed.)	DHS/ USCG	<a href="#">46 CFR 161.010-1</a>	Floating Electric Waterlights	Yes	Yes
<a href="#">UL 1203</a>	<i>Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations</i> 2006 (4th Ed.) 2009 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No
	2000 (3rd Ed.) 2004 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No
<a href="#">UL 1309</a>	<i>Marine Shipboard Cable</i> 1995 (1st Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	Yes

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#">UL 1313</a>	<i>Nonmetallic Safety Cans for Petroleum Products</i> 1982 (1st Ed.) 1985 revisions	DHS/ USCG	<a href="#">46 CFR 147.7</a>	Hazardous Ships Stores	Yes	Yes
<a href="#">UL 1314</a>	<i>Special-Purpose Containers</i> 1983 (1st Ed.) 1986 revisions	DHS/ USCG	<a href="#">46 CFR 147.7</a>	Hazardous Ships Stores	Yes	Yes
<a href="#">UL 1453</a>	<i>Electric Booster and Commercial Storage Tank Water Heaters</i> 1998 (4th Ed.) 1995 revisions	DHS/ USCG	<a href="#">46 CFR 63.05-1</a>	Auxiliary Boilers	Yes	No (3rd)
<a href="#">UL 1482</a>	<i>Room Heaters Solid-Fuel Type</i> 1979 (3rd Ed.)	HUD/ HC	<a href="#">24 CFR 200.936</a>	Fireplace Stoves	Yes	Yes
	1995 ( 5th Ed.) 2000 revisions	HUD/ HC	<a href="#">24 CFR 3280.4</a>	Manufactured Homes	Yes	No (1st, 3rd)
<a href="#">UL 1517</a>	<i>Hybrid Personal Flotation Devices</i> 1984 (1st Ed.)	DHS/ USCG	<a href="#">46 CFR 160.077-5</a>	Hybrid Inflatable Flotation Devices	Yes	No
<a href="#">UL 1570</a>	<i>Fluorescent Lighting Fixtures</i> 1995 (4th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1571</a>	<i>Incandescent Lighting Fixtures</i> 1995 (4th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1572</a>	<i>High Intensity Discharge Lighting Fixtures</i> 1995 (4th Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1573</a>	<i>Stage and Studio Lighting Units</i> 1995 (2nd Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1574</a>	<i>Track Lighting Systems</i> 1995 (2nd Ed.)	DHS/ USCG	<a href="#">46 CFR 114.600</a>	Electrical Installation	Yes	Yes
<a href="#">UL 1581</a>	<i>Reference Electrical Wires, Cables, and Flexible Cords</i> 2001 (4th Ed.) 2003 revisions	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No (2nd)
<a href="#">UL 1598</a>	<i>Luminaires</i> 2000 (1st Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	Yes	No
<a href="#">UL 1598A</a>	<i>Supplemental Requirements for Luminaires for Installation on Marine Vessels</i> 2000 (1st Ed.)	DHS/ USCG	<a href="#">46 CFR 111.10-1</a>	Electrical Engineering	No	No

*Comment on Safety Standard for Automatic Residential Garage Door Operators*

**Table A1. Select UL Standards Incorporated By Reference By Federal Agencies**

UL No.	Title and Date	Agency	CFR Section	CFR Topic	Permit Needed?	Reading Room?
<a href="#"><u>UL 1604</u></a>	<i>Electrical Equipment for Use in Class I and II, Division 2 and Class III Hazardous (Classified Locations</i> 1994 (3rd Ed.) 2004 revisions	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	No	No
<a href="#"><u>UL 1995</u></a>	<i>Cooling equipment: Including evaporative coolers, heat pumps and other equipment</i> 1990 (1st Ed.)	DOE	<a href="#"><u>10 CFR 440</u></a>	Weatherization Assistance for Low-Income Persons	Yes	Yes
	1995 (2nd Ed.) 1999 revisions	HUD/ HC	<a href="#"><u>24 CFR 3280.4</u></a>	Manufactured Homes	Yes	No (1st)
<a href="#"><u>UL 1998</u></a>	<i>Software in Programmable Components</i> 1998 (2nd Ed.)	CPSC	<a href="#"><u>16 CFR 1211</u></a>	Garage Door Operators	Yes	Yes
<a href="#"><u>UL 2021</u></a>	<i>Fixed and Location-Dedicated Electric Room Heaters</i> 1997 ( 2nd Ed.) 1998 revisions	HUD/ HC	<a href="#"><u>24 CFR 3280.4</u></a>	Manufactured Homes	Yes	No
<a href="#"><u>UL 2127</u></a>	<i>Safety for Inert Gas Clean Agent Extinguishing System Units</i> 1999 (1st Ed.) 2001 revisions	DHS/ USCG	<a href="#"><u>46 CFR 162.161-2</u></a>	Fixed Clean Agent Fire Extinguishing Systems	Yes	No
<a href="#"><u>UL 2166</u></a>	<i>Safety for Halocarbon Clean Agent Extinguishing System Units</i> 1999 (1st Ed.) 2001 revisions	DHS/ USCG	<a href="#"><u>46 CFR 162.161-2</u></a>	Fixed Clean Agent Fire Extinguishing Systems	Yes	No
<a href="#"><u>UL 2225</u></a>	<i>Cables and Cable-Fittings for Use in Hazardous (Classified Locations</i> 2005 (2nd Ed.)	DHS/ USCG	<a href="#"><u>46 CFR 111.10-1</u></a>	Electrical Engineering	Yes	No