



Oklahoma Uniform Building Code Commission

Residential Electrical Technical Committee

Recommendations for the 2015 edition of the International Residential Code®

Presented By: John E. Staires CBO, CECO

Commission Liaison: Ross Barrick

Committee Members: Jack Snoddy (Engineer/Chairman), Delane Keef (Electrical Contractor-Journeyman/Vice-Chairman), Ron Deaton (Inspector Small Jurisdiction), Patrick Deighton (Inspector Large Jurisdiction), Bill Jackson (Electrical Contractor), and Anthony Stewart (Fire Representative)

Alternate Members: Charles Duncan (Electrical Contractor-Journeyman), and John Staires (Inspector Large/Small Jurisdiction)

General Commentary:

The Residential Electrical Technical Committee conducted a thorough formal review of the 2015 Edition of the International Residential Code®; Chapters: 1, 2, 3, 9, 11, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, and the Appendices, at the request of the Oklahoma Uniform Building Code Commission. The review process commenced on Wednesday, February 4, 2015.

Public Comment Forms: 12 PCF's were received. 7 were approved as submitted and 4 were approved with amendments. 1 PCF was rejected.

The Residential Electrical Technical Committee generated Nine PCF's, eight of which were sent to the Residential Building Technical Committee, and one to the Residential Fuel Gas, Mechanical, and Plumbing Committee.

Chapter 1 – Scope
Unanimous vote to “Accept as Published”
(03/11/2015)

Chapter 2- Definitions

Proposed Code Change: Public Comment Form #E7, Addition to Section 202 - Definitions (submitted 04/16/2015). The proposed change read:

Summary of Proposed Change: Add a new Definition : Nationally Recognized Testing Laboratory (NRTL): A testing facility given this designation from the United States Occupational Safety and Health Administration (OSHA) that provides product safety testing and certification services to manufacturers.

Committee Commentary: The committee stated comment form E7 was submitted to align Rule 748-20-9-6.1 of the commercial electrical code with the residential electrical code. The committee noted comment form E7 was in conjunction with comment form E3 which was a revision of Section E3404.7. It was stated the section allowed for certain types of damaged equipment to potentially be reused instead of replaced under certain conditions. The OUBCC specifically requested a definition for “NRTL” be added to 2014 NEC® for Oklahoma to identify the referenced testing laboratory wording added to 2014 NEC® 110.12 (B) Integrity of Electrical Equipment and Connections [OK 748:20-9-6.1 (2), effective November 1, 2015].

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**” (05/06/2015)

Chapter 3- Building Planning
Unanimous vote to “Accept as Published”
(04/08/2015)

Chapter 11- Energy Efficiency

The Commission voted to omit all proposed changes to Chapter 11 at the September 15, 2015 meeting from consideration until the presentation by the Building Technical Committee.

Proposed Code Change: Public Comment Form #E10, Exception Deletion to Section 1104.1- Lighting equipment(submitted 08/26/2015). The proposed change read:

To delete Exception: N1104.1 Lighting equipment – ~~Exception : Can or recessed lights are exempt from this section of the code~~

Summary of Proposed Change: The exception was added to the 2009 Oklahoma IRC during the review process by the Building Technical Committee via PCF. The new High-efficiency lamps operate at cooler temperatures, therefore reducing the nuisance of activating the thermal cut-off device required in recessed luminaires. The 2015 Building Technical committee removed the exception, at the request of Mr. Kelly Parker and Mr. Ross Barrick, at their regularly scheduled meeting on August 12,2015. The vote was unanimous to remove.

Committee Commentary: The committee stated during the 2009 IRC review there was language added that exempted recessed luminaires from the minimum of the 50% energy-efficient lamps in permanently installed luminaires. The committee noted that PCF #E-10 strikes that language. The committee noted the same subject was reviewed at the last Building Committee and Comment Form B-44 would align both committees with the same language.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**”(09/02/2015)

Proposed Code Change: Public Comment Form #E11, Replacement of words to Section 1104.1- Lighting equipment (submitted 08/26/2015). The proposed change read:

To replace wording in Section : N1104.1 Lighting equipment. Not less than 75 percent of the lamps in permanently installed ~~lighting fixtures~~ luminaires shall be high-efficacy lamps or not less than 75 percent of the permanently installed ~~lighting fixtures~~ luminaires shall contain only high-efficacy lamps.

Summary of Proposed Change: The term “ lighting fixtures” was replaced with “luminaires” beginning with the NFPA 70® NEC®-2008, and has continued to date. The term has been changed in other sections of the 2015 IRC®, but this section failed to be changed. This would be an alignment between the NEC®, and other sections of the IRC®.

Committee Commentary: The committee noted E-11 was to make the Electrical Committee aware of what was submitted to the Building Committee and approved the wording change of lighting fixtures to luminaires

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**” (09/02/2015)

Proposed Code Change: Public Comment Form #E12, Addition to Section 1101.6 – High-Efficacy Lamps (submitted 08/26/2015). The proposed change read:
Compact fluorescent lamps, Light Emitting Diode (L.E.D) type lamps, T-8 or smaller diameter linear fluorescent lamps, or lamps with a minimum efficacy of :

Summary of Proposed Change: The definition fails to mention the available high-efficacy LED lamps that are readily available at electrical wholesalers, lighting supply stores, home improvement stores, and internet sales.

Committee Commentary: It was noted the reason for the submittal was to include the wording L.E.D. Light Emitting Diode to add clarity to the code. The committee agreed with the addition stating it gave the code language more clarity.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**” (09/02/2015)

Chapter 19- Special Appliances, Equipment and Systems

The Commission voted to omit this proposed change at the September 15, 2015 from their approval of the presentation to build the draft rules.

Proposed Code Change: Public Comment Form #E9, Addition to Section 1903.1- Stationary Fuel Cell Power Plants (submitted 08/26/2015). The proposed change read:

To add a new Section : M1903.1.1 Electrical requirements. In addition to the requirements of IRC 2015 Section M1903.1, interconnection and all associated wiring shall be installed in accordance with NFPA 70 NEC® Article 692 Fuel Cell Systems.

Summary of Proposed Change: NFPA 70 Article 692 is specific for Fuel Cell Systems, whether it is a stand-alone or interactive type system. This additional reference in M1903 would be a means of referring all design and installation personnel to an additional code that would have additional requirements to consider.

Committee Commentary: The committee stated they were in agreement with the comment form submittal with one exception. It was noted the requirements in the NEC Article 692 are much more comprehensive as it relates to electrical installation of fuel cells. The committee suggested wording be added to the comment form stating “ In addition to the IRC 2015 Section” in front of M1903.1.1 of the comment form to give clarity that there are other sources where information may be found.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change with the modification made to the comment form**”(09/02/2015)

Chapter 34- Building Planning

Proposed Code Change: Public Comment Form #E1, Correction to Section 3402.2 - Penetrations of fire resistance-rated walls (submitted 03/11/2015). The proposed change read:

3402.2-Penetrations of fire resistance-rated walls - (last sentence) Penetrations of Fire resistance-rated walls shall be limited as specified in Section ~~R317.3~~ R302.4 (300.21)

Summary of Proposed Change: The submitter noted there was a typographical error in Section R302.4- Dwelling unit rated penetrations. Section R317.3 addressed “ Fasteners and connectors in contact with preservative-treated and fire-retardant-treated wood.

Committee Commentary: The committee discussed the referenced section R317.3 was the incorrect section. The committee modified the section to reference the correct section which was Section 302.4, Penetrations of fire resistance-rated walls.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**”
(04/08/2015)

Proposed Code Change: Public Comment Form #E2, Addition to Section 3403.3 - Listing and labeling (submitted 04/01/2015). The proposed change read:

3403.3 Listing and labeling - Electrical materials, components, devices, fixtures and equipment shall be listed for the application in accordance with NFPA 70®, shall bear the label of an approved agency and shall be installed, and used, or both, in accordance with the manufacturers installation instructions. [110.3(D)]

Summary of Proposed Change: The submitter stated that the NEC® did not require all electrical materials to be listed, and some fittings do not bear the mark of an NRTL. He noted the NEC® was very specific in denoting which electrical equipment was required to be listed.

Committee Commentary: The committee discussed that the same modification was submitted and approved for the 2009 IRC®. They noted their intent was to carry it forward into the 2015 IRC®. There was discussion over the fact that the NEC® was very specific on what were approved electrical equipment, materials, and components. The inspector of the jurisdiction would be the one who made the call as to the suitability of the equipment, materials and components.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**”(04/08/2015)

Proposed Code Change: Public Comment Form #E3, Addition to 3404.7 - Integrity of Electrical Equipment(submitted 04/01/2015). The proposed change read:

3404.7 Integrity of Electrical Equipment - Damaged materials, equipment, appliances, and devices shall not be reused unless such elements have been reconditioned, tested, and placed in good and proper working condition and approved by a Nationally Recognized Testing Laboratory (NRTL), or by the manufacturer of the equipment. Electrical equipment damaged by natural or man-made events shall be reused only as recommended by the manufacturer of such equipment.

Summary of Proposed Change: The submitter stated the National Electrical Manufacturers Association (NEMA®), in conjunction with Underwriters Laboratories (UL®), publishes a guideline for reusing electrical equipment damaged by natural events such as flooding. Not all electrical components are considered to be damaged beyond reuse by water, and these components could potentially be reused. If there is a question concerning reusing specific electrical components, the manufacturer should be consulted. The submitter further explained the proposed change will align the 2015 IRC with the 2014 NEC® Oklahoma Amendment. [OK 748:20-9-6.1 effective November 1, 2015]

Committee Commentary: The committee stated that the change would give installers and inspectors guidance that some electrical equipment could be reconditioned and be reused, that equipment had to be reused in accordance with manufacturers requirements, or by an NRTL if the equipment were obsolete. They stated that the change would have a good economic impact on not only the cost, but also lowering the time that a business or residence was shut down for equipment replacement.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**”(04/08/2015)

Chapter 35 – Electrical Definitions
Unanimous vote to “Accept as
Published” (03/11/2015)

Chapter 36- Services
Unanimous vote to “Accept as
Published” (03/11/2015)

Chapter 37- Branch Circuit and Feeder Requirements

Proposed Code Change: Public Comment Form #E4, Addition to E3702.3 - Fifteen- and 20-ampere branch circuits (submitted 04/01/2015). The proposed change read:

E3702.3 Fifteen- and 20-ampere branch circuits. 20 ampere general-purpose branch circuits shall supply a maximum of 10 outlets. 15 ampere general- purpose branch circuits shall supply a maximum of 8 outlets. [210.20(A)(1) and (2)]

Summary of Proposed Change: The submitter stated the values given in Section E3702 for branch circuit loads have been in place for a number of years, and may not adequately address the potential loads that can be placed on 15-or-20 ampere general-purpose branch circuits. A PCF limiting the number of outlets connected to 15-or-20 ampere general-purpose branch circuits in multifamily dwellings and commercial structures was approved for adoption as an amendment to the 2014 NEC®. [OK 748:20-9-6.2 effective November 1, 2015]

Committee Commentary: The committee noted the change was made by in the 2014 Commercial Electrical Technical Committee. The 2014 Commercial Electrical Committee had stated they felt it was important to forward a companion proposal to the 2015 Residential Electrical Technical Committee to align the language in the NEC and IRC.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**”(04/08/2015)

Chapter 38– Wiring Methods
Unanimous vote to “Accept as Published”
(04/08/2015)

Chapter 39 – Power and Lighting Distribution

Proposed Code Change: Public Comment Form #E8, Deletion of Section 3901.11- Lighting equipment (submitted 08/26/2015). The proposed change read:

Delete Section 3901.11

Summary of Proposed Change: This section requires additional plugs in foyers. The biggest concern is the code does not provide a definition of a foyer or provide a drawing typical of many of the other plug spacing requirements in the code that would establish what is a foyer vs. a hallway. While there might be instances of wanting a plug in an entry of a home for a lamp and the like, the provision as written is too broad. What I might described as an entry hallway could easily be called a foyer necessitating quite a few more plugs. Unless the committee wants to provide a definition for a foyer I would suggest deleting this section until the language in this section is better detailed in future codes.

Committee Commentary: The provisions of E3901.11 are actually permissive language. Larger homes with a “grand entry” room would have required the minimum number of receptacles and receptacle spacing as required for other habitable rooms. E3901.11 requires only one receptacle for a wall space 3 feet or wider. The committee disagrees with the submitters statement that the term foyer is not adequately defined in E3901.11.

Committee Action Taken: The committee voted unanimously to reject PCF # E8 (9/2/2015)

Chapter 40- Devices and Luminaires

Proposed Code Change: Public Comment Form #E5, Deletion to 4002.14 - Tamper-resistant receptacles (submitted 04/01/2015). The proposed change read:

Delete amendment to E4002.14, tamper-resistant receptacles appearing in the 2009 IRC addressing the use of tamper-resistant receptacles.

Summary of Proposed Change: The submitter stated the language adopted as an amendment to E4002.14 for the 2009 IRC® now appears in the body of this section. It is no longer necessary to bring the 2009 Oklahoma modification forward by listing the exceptions to the use of tamper-resistant receptacles.

Committee Commentary: The committee noted the OUBCC 2009 Electrical Residential Technical Committee elected to use the language of the 2011 NEC®, instead of the 2008 NEC® language when the committee adopted the 2009 IRC®.

Committee Action Taken: Unanimous vote to “**Approve the Proposed Change**” (05/06/2015)

Chapter 41– Appliance Installation
Unanimous vote to “Accept as
Published” (05/06/2015)

Chapter 42 - Swimming Pools

Proposed Code Change: Public Comment Form #E6, Deletion with substitution to 4206.4.1- Maximum voltage (submitted 04/01/2015). The proposed change read:

E4206.4.1 Maximum Voltage.

~~Luminaires shall not be installed for operation on supply circuits over 150 volts between conductors.~~ Luminaires shall not operate above the low-voltage contact limit as defined in E4201.2. [680.23 (A) (4)]

Summary of Proposed Change: The submitter stated in the past several years there have been documented instances of electrocutions related to faulty swimming pool lighting. There are numerous swimming pool luminaires available that operate at or below 15 volts AC, including incandescent, LED and optical fiber types. A companion public comment was submitted and approved for Section 680.23 (A) (4) of the 2014 NEC®. [OK 748:20-9-8 effective November 1, 2015]

Committee Commentary: The committee stated that the PCF was a duplicate of a PCF submitted when reviewing the 2014 NEC®. They noted there were articles submitted which showed recorded fatalities due to improper installations and defective equipment. The committee stated that the change aligned the residential code with the commercial code language already approved.

Committee Action Taken: Unanimous vote to “Approve the Proposed Change”(05/06/2015)

**Chapter 43 – Class 2 Remote- Control
Signaling and Power-Limited Circuits
Unanimous vote to “Accept as Published”
(06/03/2015)**

**Chapter 44 – Referenced Standards
Unanimous vote to “Recognized as Published”
(06/03/2015)**

**Appendices - A through U
Unanimous vote to “Recognized as Published”
(06/03/2015)**