



January 18, 2011

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**Adopting carbon monoxide requirements  
amending 2008 ORSC & 2010 OSSC**

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**Opportunity for public input:**

Those who would like to provide testimony may attend a public hearing on January 18, 2011 at 10:00 a.m. The hearing will be located at the Building Codes Division, Conference Room A. Written comments may also be submitted to the contact below. The last day to submit written comments is 5:00 p.m. January 21, 2011.

**Live broadcast via the internet:**

To view the public hearing live, click on "[View live meeting](#)"

**Purpose of the rule:**

These proposed rules implement a portion of House Bill 3450, approved by the 2009 Legislature, known as the Lofgren and Zander Memorial Act. These rules amend the 2008 Oregon Residential Specialty Code, the 2010 Oregon Structural Specialty Code, and Appendix N for low-rise residential apartments. The bill requires carbon monoxide alarms to be installed in Group R structures, as identified in Section 315 of the Oregon Structural Specialty Code for new construction or reconstruction, alteration or repair where a building permit is required.

These proposed rules and code requirements would become effective April 1, 2011.

**Citation:**

Amend: 918-460-0015 & 918-480-0010

To view the proposed amendments to the code, click the following:

Proposed amendment for [2008 ORSC](#), [2010 OSSC](#) & [Appendix N](#)

**History:**

These changes are necessary as a result of the passage of [House Bill 3450](#) (2009), the Lofgren and Zander Memorial Act. Carbon monoxide is an invisible, odorless, colorless gas where prolonged exposure may lead to serious illness or death. Carbon monoxide gas is especially dangerous to unborn babies, infants, older adults, people who smoke, and people with chronic heart disease, anemia, or respiratory problems. Carbon monoxide gas is created when fuels, such as gasoline, wood, charcoal, coal, natural gas, propane, oil, kerosene and methane burn incompletely. Common sources of carbon monoxide gas are fuel burning heaters, appliances and fire places, products powered by an internal combustion engine, and motor vehicles.

According to the Centers for Disease Control (CDC), carbon monoxide is the leading cause of accidental poisoning deaths in America, accounting for thousands of injuries and approximately 400 deaths annually.

The division received input from the residential code committee for the ORSC and by a workgroup for the OSSC. Recommendations from the division were considered by the Residential and Manufactured Structures Board at the board's December 8, 2010 meeting and by the Building Codes Structures Board at the board's November 10, 2010 meeting.

**Contact:**

If you have questions or need further information, please contact Hearing Officer Richard Rogers at 503-378-4472, or [richard.rogers@state.or.us](mailto:richard.rogers@state.or.us) .



Secretary of State  
**NOTICE OF PROPOSED RULEMAKING HEARING\***

A Statement of Need and Fiscal Impact accompanies this form.

Department of Consumer and Business Services, Building Codes Division	918
Agency and Division	Administrative Rules Chapter Number
Stephanie Snyder	PO Box 14470, Salem, OR 97309
Rules Coordinator	Address
	(503) 373-7438
	Telephone

**RULE CAPTION**

Adopts carbon monoxide alarm provisions amending the 2008 ORSC and 2010 OSSC.  
Not more than 15 words that reasonably identify the subject matter of the agency's intended action.

January 18, 2011	10:00 a.m.	1535 Edgewater Street NW, Salem, OR 97304	Richard Rogers
Hearing Date	Time	Location	Hearings Officer

*Auxiliary aids for persons with disabilities are available upon advance request.*

**RULEMAKING ACTION**

Secure approval of new rule numbers (Adopted or Renumbered rules) with the Administrative Rules Unit prior to filing.

**ADOPT:**

**AMEND:** OAR 918-460-0015 & 918-480-0010

**REPEAL:**

**RENUMBER:**

**AMEND & RENUMBER:**

Stat. Auth.: ORS 447.231, 447.247, 455.020, 455.030, 455.110, 455.112, 455.360, 455.525 & 455.610

Other Auth.:

Stats. Implemented: ORS 447.247, 455.110, 455.360, 455.112 & 455.610

**RULE SUMMARY**

These proposed rules implement a portion of House Bill 3450, approved by the 2009 Legislature, known as the Lofgren and Zander Memorial Act. The bill requires carbon monoxide alarms to be installed in Group R structures (as identified in Section 315 of the Oregon Structural Specialty Code) that is either new construction or undergoes reconstruction, alteration or repair where a building permit is required. Group R structures are regulated under either the Oregon Structural Specialty Code (OSSC) or the Oregon Residential Specialty Code (ORSC). The bill requires that these provisions become effective April 1, 2011 amending both the 2010 OSSC and the 2008 ORSC, including Appendix N in the 2010 OSSC for low-rise residential apartments.

The Agency requests public comment on whether other options should be considered for achieving the rule's substantive goals while reducing the negative economic impact of the rule on business.

January 21, 2011 at 5:00 p.m.

**Last Day for Public Comment** (Last day to submit written comments to the Rules Coordinator)

	Patrick Allen	
Signature	Printed name	Date

**STATEMENT OF NEED AND FISCAL IMPACT**

A Notice of Proposed Rulemaking Hearing or a Notice of Proposed Rulemaking accompanies this form.

Department of Consumer and Business Services, Building Codes Division

918

Agency and Division

Administrative Rules Chapter Number

Adopts carbon monoxide alarm provisions amending the 2008 ORSC and 2010 OSSC.

Rule Caption (Not more than 15 words that reasonably identifies the subject matter of the agency's intended action.)

**In the Matter of Amending:** OAR 918-460-0015 & 918-480-0010

**Statutory Authority:** ORS 447.231, 447.247, 455.020, 455.030, 455.110, 455.112, 455.360, 455.525 & 455.610

**Other Authority:**

**Stats. Implemented:** ORS 447.247, 455.110, 455.360, 455.112 & 455.610

**Need for the Rule(s):** These proposed rules are necessary as a result of the passage of House Bill 3450 (2009), the Lofgren and Zander Memorial Act. The bill requires carbon monoxide alarms in Group R structures that are either new construction or undergoes reconstruction, alteration or repair where a building permit is required. Group R structures are regulated under either the Oregon Structural Specialty Code (OSSC) or the Oregon Residential Specialty Code (ORSC). The bill requires that these provisions become effective April 1, 2011 amending both the 2010 OSSC and the 2008 ORSC, including Appendix N in the 2010 OSSC for low-rise residential apartments.

Carbon monoxide is an invisible, odorless, colorless gas where prolonged exposure may lead to serious illness or death. Carbon monoxide gas is especially dangerous to unborn babies, infants, older adults, people who smoke, and people with chronic heart disease, anemia, or respiratory problems. Carbon monoxide gas is created when fuels, such as gasoline, wood, charcoal, coal, natural gas, propane, oil, kerosene and methane burn incompletely. Common sources of carbon monoxide gas are fuel burning heaters, appliances and fire places, products powered by an internal combustion engine, and motor vehicles.

According to the Centers for Disease Control (CDC), carbon monoxide is the leading cause of accidental poisoning deaths in America, accounting for thousands of injuries and approximately 400 deaths.

**Documents Relied Upon, and where they are available:** House Bill 3450 (2009)

**Fiscal and Economic Impact:** The division has determined that these rules will have a fiscal and economic impact on the public. The actual fiscal impact of these changes cannot be determined at this time because it is dependent on the specifics of a particular building, such as design variables, construction methods, building type, and materials. The average retail cost of a typical carbon monoxide alarm is approximately \$51. The average retail cost for a combination carbon monoxide/smoke alarm is approximately \$51. For a typical new home, the division estimates that it will cost approximately \$150 - \$200 for a typical new home (1,200 square foot home with three bedrooms).

Oregon law currently requires that all new homes have a smoke alarm in each sleeping room and outside each separate sleeping area. It is anticipated that to comply with the requirements of these rules, contractors will install a combination carbon monoxide/smoke alarm in place of the already required smoke alarm.

Based upon the estimates above, contractors and building owners will determine whether or not to install individual carbon monoxide alarms or combination carbon monoxide/smoke alarms in other structures covered by these rules, including but not limited to, hotels, motels, apartments, dormitories, fraternities, sororities, residential care/assisted living facilities.

The bill does allow for other types of carbon monoxide alarms and alarm systems. Actual costs can not be determined at this time because it is unknown what type of carbon monoxide alarm or system may be installed.

It is unknown what costs may be associated with complying with these rules as a result of reconstruction, alteration or repair because each project is unique in nature, size and scope. The Residential and Manufactured Structures Board and the Building Codes Structures Board made the specific finding that the added cost, if any, is necessary to protect the health and safety of the occupants or the public, or is necessary to conserve scarce resources.

**Statement of Cost of Compliance:**

1. Impact on state agencies, units of local government and the public (ORS 183.335(2)(b)(E)):

These rules do not have impacts on state agencies or units of local government. These rules will have an impact on the public. It may cost an additional \$150 per home to install carbon monoxide alarms in a typical new home. The actual fiscal impact of these changes cannot be determined at this time because it is dependent on the specifics of a particular building, such as design variables, construction methods, building type, and materials.

2. Cost of compliance effect on small business (ORS 183.336):

a. Estimate the number of small businesses and types of business and industries with small businesses subject to the rule:

Small businesses that are subject to these rules include residential and commercial contractors, designers, engineers, architects, and others associated with the construction industry. There are approximately 40,000 licensed active construction businesses in the state of Oregon. Construction businesses are primarily small and medium sized businesses: approximately 90 percent employ fewer than 20 workers, 80 percent fewer than 10, and nearly 75 percent employ fewer than five workers

b. Projected reporting, recordkeeping and other administrative activities required for compliance, including costs of professional services: These rules do not require reporting, recordkeeping, or other administrative activities required for compliance. Some small businesses may use professional services to comply with these rules.

c. Equipment, supplies, labor and increased administration required for compliance: None.

**How were small businesses involved in the development of this rule?**

**Administrative Rule Advisory Committee consulted?:** Yes

If not, why?:

Patrick Allen

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
Date

# HOUSING COST IMPACT STATEMENT

FOR ESTIMATING THE EFFECT OF A PROPOSED RULE OR ORDINANCE ON THE COST OF DEVELOPING  
A \*TYPICAL 1,200 SQ FT DETACHED SINGLE FAMILY DWELLING ON A 6,000 SQ FT PARCEL OF LAND.  
(ORS 183.534)  
FOR ADMINISTRATIVE RULES

AGENCY NAME: Consumer & Business Services  
Building Codes Division

PERMANENT:

HEARING DATE: January 18, 2011

ADDRESS: 1535 Edgewater Street NW

CITY/STATE: Salem, OR

TEMPORARY:

EFFECTIVE DATE: April 1, 2011

PHONE: 503-378-4133

## BELOW PLEASE PROVIDE A DESCRIPTION OF THE ESTIMATED SAVINGS OR ADDITIONAL COSTS THAT WILL RESULT FROM THIS PROPOSED CHANGE.

PROVIDE A BRIEF EXPLANATION OF HOW THE COST OR SAVINGS ESTIMATE WAS DETERMINED.  
IDENTIFY HOW CHANGE IMPACTS COSTS IN CATEGORIES SPECIFIED

### Description of proposed change: (Please attach any draft or permanent rule or ordinance)

These proposed rules implement a portion House Bill 3450, approved by the 2009 Legislature, known as the Lofgren and Zander Memorial Act. The bill requires carbon monoxide alarms to be installed in Group R structures (as identified in Section 315 of the Oregon Structural Specialty Code) that is either new construction or undergoes reconstruction, alteration or repair where a building permit is required. Certain Group R structures are regulated under the Oregon Residential Specialty Code. The bill requires that these provisions become effective April 1, 2011, amending the 2008 ORSC including Appendix N in the 2010 Oregon Structural Specialty Code for low-rise residential apartments.

### Description of the need for, and objectives of the rule:

These proposed rules are necessary as a result of the passage of House Bill 3450 (2009), the Lofgren and Zander Memorial Act. The bill requires carbon monoxide alarms in Group R structures that are either new construction or undergoes reconstruction, alteration or repair where a building permit is required. Certain Group R structures are regulated under the Oregon Residential Specialty Code.

Carbon monoxide is an invisible, odorless, colorless gas where prolonged exposure may lead to serious illness or death. Carbon monoxide gas is especially dangerous to unborn babies, infants, older adults, people who smoke, and people with chronic heart disease, anemia, or respiratory problems. Carbon monoxide gas is created when fuels, such as gasoline, wood, charcoal, coal, natural gas, propane, oil, kerosene and methane burn incompletely. Common sources of carbon monoxide gas are fuel burning heaters, appliances and fire places, products powered by an internal combustion engine, and motor vehicles. According to the Centers for Disease Control (CDC), carbon monoxide is the leading cause of accidental poisoning deaths in America, accounting for thousands of injuries and approximately 400 deaths.

### List of rules adopted or amended:

Amend OAR 918-480-0010.

### Materials and labor costs increase or savings:

The average retail cost of a typical carbon monoxide alarm is approximately \$51. The average retail cost for a combination carbon monoxide/smoke alarm is approximately \$51. It will cost approximately \$150 - \$200 for a typical new home. Currently, Oregon law requires that all new homes have a smoke alarm in each sleeping room and outside each separate sleeping area. It is anticipated that to comply with the requirements of these rules, contractors will install a combination carbon monoxide/smoke alarm in place of the already required smoke alarm. Actual costs depend on the specifics of a particular home design.

### Estimated administrative construction or other costs increase or savings:

The proposed rules do not impose any additional administrative requirements.

### Land costs increase or savings: N/A

### Other costs increase or savings: None.

\*Typical-Single story 3 bedrooms, 1 1/2 bathrooms, attached garage (calculated separately) on land with good soil conditions with no unusual geological hazards.

PREPARERS NAME: Richard J. Baumann

EMAIL ADDRESS: Richard.J.Baumann@state.or.us

## Carbon Monoxide Alarms – HB 3450 (2009)

### 918-460-0015

#### Amendments to the Oregon Structural Specialty Code

The **2010 Oregon Structural Specialty Code** is adopted and amended pursuant to OAR chapter 918, division 8. Amendments adopted for inclusion into the **2010 Oregon Structural Specialty Code** are placed in this rule, showing the section reference, a descriptive caption, and a short description of the amendment.

(1) Effective January 1, 2011 the **2010 Oregon Structural Specialty Code** is amended by adding Section 1811 Radon Control Methods for Public Buildings and Section 1812 Radon Control Methods for R-2 and R-3 Occupancies.

(a) Radon mitigation provisions in Section 1811 applicable to new public buildings are adopted January 1, 2011 but do not become enforceable until April 1, 2013 as authorized by Chapter 83, 2010 Laws (Senate Bill 1025).

(b) Radon mitigation provisions in Section 1812 applicable to residential buildings indentified as Group R-2 or R-3 are adopted January 1, 2011 but do not become enforceable until April 1, 2011 as authorized by Chapter 83, 2010 Laws (Senate Bill 1025).

**(2) Effective April 1, 2011 the 2010 Oregon Structural Specialty Code Section 908 “Emergency Alarm Systems” is amended by adding new subsection 908.7 requirements for Carbon Monoxide Alarms.**

[Publications: Publications referenced are available for review at the division. See division web site for information on where to purchase publications.]

Stat. Auth.: ORS 447.231, 447.247, 455.030, 455.110, 455.112, & 455.610

Stats. Implemented: ORS 447.247, 455.110 & 455.112

Hist.: BCA 18-1993, f. 8-24-93, cert. ef. 8-29-93; BCA 28-1993, f. 10-22-93, cert. ef. 1-1-94; BCD 6-1994, f. 2-25-94, cert. ef. 5-1-94; BCD 22-1994, f. 9-28-94, cert. ef. 1-1-95; BCD 31-1994(Temp), f. & cert. ef. 12-23-94; BCD 32-1994, f. & cert. ef. 12-30-94; BCD 2-1995, f. & cert. ef. 2-9-95; BCD 5-1995, f. & cert. ef. 3-15-95; BCD 2-1996, f. 2-2-96, cert. ef. 4-1-96; BCD 6-1996, f. 3-29-96, cert. ef. 4-1-96; BCD 12-1997, f. 9-10-97, cert. ef. 10-1-97; BCD 19-1998, f. 9-30-98, cert. ef. 10-1-98; BCD 24-1998(Temp), f. & cert. ef. 12-1-98 thru 5-29-99; Temporary Rule repealed by BCD 3-1999, f. 3-12-99, cert. ef. 4-1-99; BCD 5-1999, f. 6-17-99, cert. ef. 10-1-99; BCD 12-1999(Temp), f. 9-23-99, cert. ef. 11-1-99 thru 4-28-00; BCD 2-2000 f. 1-14-00, cert. ef. 4-1-00; BCD 20-2000, f. 9-15-00, cert. ef. 10-1-00; BCD 8-2001, f. 7-17-01, cert. ef. 10-1-01; BCD 18-2001, f. 12-21-01, cert. ef. 1-1-02; BCD 14-2003, f. 8-13-03, cert. ef. 10-1-03; BCD 18-2003(Temp) f. & cert. ef. 11-14-03 thru 5-11-04; BCD 5-2004, f. & cert. ef. 4-1-04; BCD 16-2004, f. 9-24-04, cert. ef. 10-1-04; BCD 21-2004, f. & cert. ef. 10-1-04; BCD 9-2005(Temp), f. & cert. ef. 4-7-05 thru 9-30-05; BCD 14-2005, f. & cert. ef. 7-5-05; BCD 18-2005(Temp), f. & cert. ef. 7-12-05 thru 9-30-05; BCD 22-2005, f. 9-29-05, cert. ef. 10-1-05; BCD 23-2005, f. 9-29-05, cert. ef. 10-1-05; BCD 1-2006, f. & cert. ef. 2-1-06; BCD 9-2006, f. 6-30-2006, cert. ef. 7-1-06; BCD 1-2007, f. 2-15-07, cert. ef. 4-1-07; BCD 9-2008(Temp), f. & cert. ef. 6-25-08 thru 12-22-08; BCD 20-2008, f. 9-30-08, cert. ef. 10-1-08; BCD 4-2010, f. 5-14-10, cert. ef. 7-1-10

## **918-480-0010**

### **Amendments to the Oregon Residential Specialty Code**

(1) The **Oregon Residential Specialty Code** is adopted and amended pursuant to OAR chapter 918, division 8. Amendments adopted for inclusion into the **Oregon Residential Specialty Code** are placed in this rule, showing the section reference and a descriptive caption.

(2) Effective April 1, 2008:

(a) The 2006 Edition of the Uniform Plumbing Code, as published by the International Association of Plumbing and Mechanical Officials and amended by the division, is adopted to provide the plumbing provisions of the **Oregon Residential Specialty Code**; and

(b) The 2008 Edition of the NFPA 70, National Electrical Code as amended by the division is adopted to provide the electrical provisions of the **Oregon Residential Specialty Code**. See OAR chapter 918, division 305 for Oregon amendments to NFPA 70, National Electrical Code.

(3) During the phase-in period established in OAR 918-480-0005(3), plans designed to the **2005 Oregon Residential Specialty Code** must use the plumbing and electrical provisions included in that 2005 code. Plans that are designed to the **2008 Oregon Residential Specialty Code** must use the plumbing and electrical provisions adopted in this rule.

(4) Effective October 1, 2008, the following sections of the 2008 Oregon Residential Specialty Code are amended:

(a) Section R 109.1.4.1 Moisture content.

(b) Section R318.2 Moisture content.

(5) Effective February 1, 2009, following sections of the **2008 Oregon Residential Specialty Code** are amended:

(a) Section R602.10.9 Interior braced wall support.

(b) Section R613.2 Window sills is added

(c) Section R.613.2.1 Operation for emergency escape is added

(d) Chapter 43 Referenced Standards.

(6) Effective October 1, 2009, the following sections of the **2008 Oregon Residential Specialty Code** are amended:

(a) Section AG106 Entrapment Protection For Swimming Pool And Spa Suction Outlets is added.

(b) Section AG107 Abbreviations.

(c) Section AG108 Standards.

(7)(a) Effective January 1, 2010, the following sections of the **2008 Oregon Residential Specialty Code** are amended:

(A) Section R703.1 General

(B) Section R703.1.1 Exterior Wall Envelope

(b) Changes to the **2008 Oregon Residential Specialty Code** made by subsection (a) of this section are subject to a grace period ending March 31, 2010. During the grace period, the building official must approve installations that meet either the standard adopted under Section R703.1 prior to this amendment or the standard established by this amendment.

(8) Effective January 1, 2011, the **2008 Oregon Residential Specialty Code** is amended by adopting **Appendix F Radon Control Methods**. This provision is adopted January 1, 2011 but do not become enforceable until April 1, 2011 as authorized by Chapter 83, 2010 Laws (Senate Bill 1025).

**(9) Effective April 1, 2011, the 2008 Oregon Residential Specialty Code is amended for the purposes of adopting Section R326, requirements for carbon monoxide alarms.**

**(10) Effective April 1, 2011, Appendix N of the 2010 Oregon Structural Specialty Code is amended for the purpose of adopting the carbon monoxide alarm requirements in 2008 Oregon Residential Specialty Code, Section R326.**

**NOTE:** The amendments are published in their entirety in Table 2-R beginning on page 9. [Publications: Publications referenced are available for review at the division. See division web site for information on where to purchase publications.]

Stat. Auth.: ORS 455.020, 455.110, 455.525 & 455.610

Stats. Implemented: ORS 455.610

Hist.: BCA 18-1993, f. 8-24-93, cert. ef. 8-29-93; BCA 28-1993, f. 10-22-93, cert. ef. 1-1-94; BCA 29-1993, f. 11-24-93, cert. ef. 12-1-93; BCD 6-1995, f. 3-31-95, cert. ef. 4-1-95; BCD 3-1996, f. 2-2-96, cert. ef. 4-1-96; BCD 22-1996(Temp), f. 10-1-96, cert. ef. 10-4-96; BCD 5-1997, f. 3-21-97, cert. ef. 4-1-97; Administrative Reformatting 1-19-98; BCD 3-1998, f. 1-29-98, cert. ef. 4-1-98; BCD 19-1998, f. 9-30-98, cert. ef. 10-1-98; BCD 3-2000, f. 1-14-00 cert. ef. 4-1-00; BCD 19-2000(Temp), f. & cert. ef. 8-15-00 thru 2-10-01; BCD 32-2000, f. 12-27-00, cert. ef. 1-1-01; BCD 3-2001, f. 2-9-01, cert. ef. 3-1-01; BCD 2-2002, f. 3-5-02, cert. ef. 4-1-02; BCD 22-2002(Temp), f. 9-13-02 cert. ef. 10-1-02 thru 3-29-03; BCD 30-2002, f. 12-6-02, cert. ef. 1-1-03; BCD 1-2003(Temp), f. & cert. ef. 1-10-03 thru 3-31-03; BCD 33-2002, f. 12-20-02 cert. ef. 4-1-03; BCD 15-2004, f. 9-10-04, cert. ef. 10-1-04; BCD 5-2005, f. & cert. ef. 3-28-05; BCD 9-2006, f. 6-30-06, cert. ef. 7-1-06; BCD 1-2007, f. 2-15-07, cert. ef. 4-1-07; BCD 5-2008, f. 2-22-08, cert. ef. 4-1-08; BCD 13-2008(Temp), f. & cert. ef. 7-3-08 thru 12-30-08; BCD 21-2008, f. 9-30-08, cert. ef. 10-1-08; BCD 24-2008(Temp), f. & cert. ef. 10-6-08 thru 4-1-09; BCD 1-2009, f. 1-30-09, cert. ef. 2-1-09; BCD 8-2009, f. 9-30-09, cert. ef. 10-1-09; BCD 5-2010, f. 5-14-10, cert. ef. 7-1-10