

# CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

WINTER 2004

## Consistency within the building codes system

By Mark Long, administrator



Oregon's system of delivering building services is undergoing big changes. Customer service, consistency, and enforcement have risen to the top of our priority list.

The challenge of consistency occurs at both the state and local levels. State and local officials are seeing opportunities to work together to share best practices and improve consistency in how we deliver services to our customers.

At the state, consistency is key to our mission. Consistency includes consistent application of the code, consistent enforcement, and consistent licensing and certification practices. Lack of consistency can create unnecessary red tape, unwarranted delays, and confusion as customers struggle to figure out what is expected of them.

Recognizing that consistency must begin with Oregon's code-adoption process, we have called together the board chairs from all of our boards. These individuals are working together to improve consistency in code adoption, code interpretation, and code enforcement across program lines.

Additionally, our partners in local government through the Oregon Building Officials Association are committed to providing greater consistency, and we are working with them in a number of ways to achieve state-wide code consistency.

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# Public-outreach campaign wins awards



The Oregon Columbia International Association of Business Communicators and the National Conference of States on Building Codes and Standards recently recognized the Permits Protect! public outreach effort in the tri-county area with awards for the campaign's "Joe Saturday" radio ad and for its "When do I Need A Mechanical Permit" brochure.

At this year's awards event, the Oregon Columbia International Association of Business Communicators presented the Permits Protect!/Joe Saturday radio spot for the Permits Protect Campaign an award of merit. This was the only award given in the audio-visual category this year. The competition was judged by an IABC chapter in another city. The ad was created by PacWest Communications and ran on local "handyman" radio shows during the summer and into early November. A host of state and local governments and trade associations combined funds to run the ads. (A list of Permits Protect Partners can be found on <http://www.PermitsProtect.info>).

Oregon's "Permits Protect" — "Do I need a mechanical permit?" was selected as the best building department brochure at NCSBCS' 37th annual conference in October.

Permits Protect! is a public outreach campaign created by a tri-county public outreach committee consisting of a small group of state and local officials, representatives from the Home Builders Association, the Plumbing Heating and Cooling Contractors, NECA, and area realtors. The committee's goal is to remind people that it's in their best interest to get permits for home construction or remodeling jobs and to use licensed contractors and tradespeople.

The public-service campaign includes a 30-second radio message; a Web site with information for consumers, <http://www.permitsprotect.info>; a series of brochures and flyers available to contractors, local building departments, and the public; and an informational display for home-remodeling trade shows. ■

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## Consistency with the building codes system, *continued*

To further these efforts, the Building Codes Division is working on legislation that, if passed, will improve consistency in licensing processes and enforcement.

We are encouraged that the actions of our boards, stakeholders, and partners will lead to significant changes at the state level and

will, in turn, lead to greater local consistency. We believe these efforts are key in helping to support a positive business climate for Oregon. We will keep you informed as our efforts progress. ■

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# Oregon adopts new statewide building codes



On October 1, Oregon adopted two new statewide building codes, the Oregon Structural Specialty Code and the Oregon Mechanical Specialty Code. The 2004 OSSC is based on the 2003 International Building Code, and includes Oregon-specific amendments. The 2004 OMSC is based on the 2003 International Mechanical Code and the 2003 International Fuel Gas Code. It also has Oregon-specific amendments.

The 2004 OSSC covers commercial construction, certain apartments, transient lodging such as hotels and motels, and certain residential structures that are subject to licensure by the Oregon Department of Human Services. To give the construction industry, contractors, architects, engineers, building officials and inspectors an opportunity to become familiar with the new 2004 OSSC, the DCBS Building Codes Division is requiring that all building departments in the state allow a phase-in period of 90 days, October 1 to

January 1. During this phase-in period, building departments will accept plans designed either to the 1998 OSSC (based on the Uniform Building Code) or to the 2004 OSSC (based on the International Building Code), but not plans that use a combination of the two codes. The 90-day phase-in period does not apply to the OMSC.

The 2004 OMSC, which is simply an update to the current 2002 Oregon Mechanical Specialty Code, covers commercial and certain residential mechanical installations. Most projects with permits issued prior to October 1 will remain under the 2002 edition of the OMSC, and most of those with permits issued after October 1 will be under the 2004 edition.

For more information, check the Building Codes Division's Web site, <http://www.oregonbcd.org>. ■

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## Minor label program goes "online"

Beginning December 1, contractors can apply and pay for electrical and plumbing minor labels online. The new system is designed to simplify the application process and save contractors the time of filling out and sending in a application form.

"This is the first of a multi-step process to streamline the building and permitting process in Oregon," said Mark Long, BCD administrator. "We are currently developing a one-stop permitting system in the Portland metro area that will allow contractors to purchase trade permits for area building departments. Our plan is to eventually extend these services statewide."

With the new online program, contractors registered with the system can simply enter their names, label lots they wish to purchase, and their credit card numbers. The system checks their license numbers, calculates the amount owed, and processes the credit-card transactions. The division sends the order within two working days.

The online permitting pages are at <http://www.buildingpermits.oregon.gov> or on the BCD Web site, <http://www.oregonbcd.org>, click on "Permits" then on "Electrical" or "Plumbing Minor Label Program." Customers may also apply and pay for minor labels through the mail, fax [(503) 872-6735], or in person at the division's Tri-County Service Center in Portland, 123 NE 3rd, Suite 440. ■

# How did my boiler get from “then” to “now”?

By Ray Andrus, chief boiler inspector



Man has used steam as a tool for over 2000 years. Early on, steam was primarily used for cooking and woodworking. Then came the industrial revolution. Until that time, the waterwheel was the standard source of power for industry.

Steam power was recognized as a good way for industry to become independent of waterpower sources: You didn't have to be next to a river if you had a boiler.

The first commercially successful steam boiler and engine was built in 1712. It was used to pump water out of the deep tin mines in southwestern England. The design was simple and the equipment ruggedly built.

In 1736, James Watt built a steam engine that converted the linear motion of a piston to the rotating motion of a flywheel. He realized that by using the kinetic energy of a heavy flywheel, he could power a larger machine with a smaller engine. Watt coined the term “horsepower” and defined it as the amount of work that an engine could do.

During the early to mid-1800s, steam power's use was greatly expanded, to rail and fire engines, heating for buildings, and marine propulsion. Research doesn't reveal a lot of information about boilers themselves, such as who built the early boilers; it was the local blacksmiths — the same guys that put shoes on the horses and built plows.

As a natural result of playing with fire, lots of people got burnt during the early years of the boiler and pressure-vessel industry. There were no trade unions, no OSHA, no labor laws to protect workers. In building a nation, there was little time to worry about safety in the workplace. But a few catastrophic accidents changed that mindset.

- In 1854, at the False & Gray manufacturing plant, a boiler exploded, killing dozens of workers and destroying the war-goods manufacturing plant in Hartford, Connecticut. Public outrage and the subsequent loss of revenue got the attention of city fathers.
- The Sultana was a side-wheeler riverboat operating on the Mississippi River. She was designed as a cargo and passenger boat,

and was rated to carry 376 people. At the close of the Civil War, the Sultana stopped in Vicksburg and more than 1,800 soldiers boarded under Army orders, to return home. The Mississippi was at flood stage from heavy spring rains; the Sultana had to fight the powerful current dangerously overloaded. At midnight, April 26, 1865, near Memphis, the Sultana's boiler exploded. Between 1,500 and 1,700 men died in the fire or drowned.

- In 1905, a boiler explosion in Massachusetts killed 56 people in a factory. The Massachusetts legislature immediately took action to write and enforce a Boiler Code Law, and was the first state to do so. Many other states and cities followed suit.

In the early 1900s, the boiler industry as a whole asked the American Society of Mechanical Engineers (ASME) to develop a boiler construction standard that could be adopted by all states and cities.

Boiler explosions continued throughout the early 1900s and the public was tired of the slaughter and mayhem caused by faulty pressure equipment. As a result of the outcry from the public and industry, ASME published its first Boiler and Pressure Vessel Code in 1914.

Oregon first enacted its Boiler Law in 1922. The Oregon Boiler Safety Program has the responsibility of protecting the people and property of Oregon from fire and explosions caused by boilers and pressure vessels. This is a challenging goal because safety frequently costs the equipment owner a lot of money. Regardless of cost, boiler inspectors provide a needed service. Every time we are successful in doing our job, someone is a little bit safer. In the state of Oregon, there are over 16,800 boilers and 30,000 pressure vessels to inspect. In addition, all welded repairs on boilers and pressure vessels by certified companies must be inspected.

Those who provide inspection services are highly trained professionals, specializing in safety engineering and commissioned by the National Board of Boiler and Pressure Vessel Inspectors of Columbus, Ohio. ■

# Code-compliant valves and the hot-water boiler

By Ray Andrus, chief boiler inspector



Boiler inspectors have recently reported that some contractors and engineers are using inexpensive butterfly valves that do not meet code in hot-water boiler systems. The state's boiler program is alerting inspectors, contractors, and engineers to the requirements for valves in hot-water boilers.

## Requirements for single hot-water-heating boilers

To permit draining the boiler without emptying the system, stop valves must be located at an accessible point in the supply and return pipe connections, as near to the boiler nozzle as is convenient and practicable. When the boiler is located above the piping system, and can be drained without draining the system, stop valves may be eliminated.

Stop valves, whether used on steam or waters boilers, must meet Section IV of the ASME (American Society of Mechanical Engineers) Code.

## ASME requirements:

- The minimum pressure rating of all valves must be at least equal to the pressure stamped on the boiler. The temperature rating of the valve, including all internal components, may not be less than 250° F.
- Valves must be flanged or threaded or have ends suitable for welding or brazing.
- All valves with stems or spindles must have adjustable-pressure packing glands and all plug cocks must be equipped with a guard or gland.
- All valves must close tightly when under hydrostatic test pressure.

Manufacturers do make butterfly valves that meet the above requirements. Such valves have a metal tag affixed that identify them as meeting ASME Section IV requirements. When reviewing plans and specifications before a proposed boiler system installation, contractors and engineers should specify the type of valve called for in the specifications, and inspectors should take care to make sure that the valves meet code. The best time to call the engineers' attention to non-code valves is before the installation, not during or after installation.

All valves must also comply with the material requirements of Section IV of the ASME Code.

## Requirements to notify the boiler inspector not readily understood

Confusion still exists concerning the requirement to notify an inspector before beginning any boiler work that requires an *application for a permit to install, repair, or alter*. Contractors are required to call the inspector listed at the bottom of the permit; simply faxing the application and receiving the accepted copy back does not fulfill legal requirements. Oregon's Boiler and Pressure Vessel Law (OAR 918-225-605 (2) states: "Prior to beginning the intended installation, repair or alteration, the contractor **shall** notify the deputy or special inspector who will inspect the work. Work **shall not begin** until the inspector has reviewed and approved the work to be performed."

Failure to call (notify) the inspector listed at the bottom of the permit may result in the filing of a preliminary compliance report against the holder of the boiler and pressure vessel license violating OAR 918-225-605(2).

In addition to reminding contractors about the requirement to call the inspector before starting work on an installation, we remind contractors, inspectors, and field personnel of the following:

1. Boiler permits must be obtained and approved prior to starting any regulated work.
2. It is always the installation contractors' responsibility to obtain installation permits. The boiler owner or the general contractor cannot obtain an installation permit.
3. The approved permits must be posted on the job site during the work.
4. Contractors must involve the inspector throughout the installation, not just at completion. ■

# BCD files permanent rules



The year's third quarter was a busy time for rule making. Following are highlights of recent rulemaking activity. A complete list, text, and explanation of newly adopted permanent rules is available at <http://www.oregonbcd.org>. Click on Public Notices then on Notices of Permanent/Temporary Rules.

## *OAR 918-100-0000 through 0065 — Merge Statewide and Tri-County Minor Label Programs*

**Purpose:** Creates one statewide electrical and plumbing minor label program by merging the Tri-County and statewide minor label programs.

## *OAR 918-440-0010 — Adopts the 2004 Oregon Mechanical Specialty Code*

**Purpose:** Adopts rules for establishing minimum safety standards for the design and construction of mechanical systems in buildings. OAR 918-440-0040 allows for amendments to be made to the Oregon Mechanical Specialty Code (OMSC).

These rules adopt the 2003 International Mechanical Code (IMC) and International Fuel Gas Code (IFGC) with Oregon amendments as the 2004 OMSC, effective October 1, 2004.

## *OAR 918-460-0010 — Adopts the 2004 Oregon Structural Specialty Code*

**Purpose:** Adopts rules for establishing minimum safety standards for the design and construction of buildings. OAR 918-460-0015 allows for amendments to be made to the Oregon Structural Specialty Code (OSSC).

These rules adopt the 2003 International Building Code (IBC) with Oregon amendments as the 2004 OSSC effective October 1, 2004. These rules also eliminate Oregon amendments from administrative rule for the previously adopted structural code.

## *OAR 918-460-0011 — Transitional Temporary Rule (90-day phase-in of the OSSC)*

**Purpose:** A temporary rule to allow a transition period of 90 days for the new 2004 Oregon Structural Specialty Code (OSSC), from October 1, 2004, to December 31, 2004, to allow the construction industry, contractors, architects, engineers, building officials, and inspectors an opportunity to become familiar with the new code.

The division is suspending OAR 918-008-0030, which defines the check list and time line for code-change submittals, because the printed amendments to the 2004 OSSC were not available 60 to 90 days prior to the effective date of the code, as required by this rule. The suspension is valid for 180 days.

## *OAR 918-460-0015 — Amends the Oregon Structural Specialty Code*

**Purpose:** Adopts amendments to the Oregon Structural Specialty Code. Effective October 1, 2004, this proposed rule amendment prohibits the installation of wired glass in areas subject to human impact.

## *OAR 918-480-0130, OAR 918-020-0090, and OAR 918-098-0500 — Plan review for architects and engineers, definition of light-frame construction, building department standards and sanctions for building officials and inspectors*

**Purpose:** To implement Section 4 of 2003 Senate Bill 711. Among other things, SB 711 exempts an Oregon-registered architect or engineer, who is also certified by the division as a one- and two-family dwelling plans examiner, from plan review if the project meets the definition of "conventional light-frame construction."

**OAR 918-480-0130** provides an exemption to plan review for architects and engineers under certain conditions and defines "conventional light-frame construction."

**OAR 918-020-0090** requires building department operating plans to include policies and procedures for waiving building inspection requirements for one- and two-family dwellings that meet the definition of “conventional light-frame construction.”

**OAR 918-098-0500** is amended to establish a sanction process for building officials and inspectors who fail to enforce statewide interpretations, alternate methods, rulings, or other building-program requirements.

The rules also provides for a more consistent statewide application of the building code by establishing sanctions for building officials and inspectors who do not comply with state interpretations, advisories, or other rulings.

*OAR 918-695-0030 — Amends existing rules setting qualifications for journeyman plumbers*

**Purpose:** Clarifies qualification requirements for an Oregon journeyman plumber’s license. Effective October 1, 2004.

*OAR 918-780-0080 — Amends rules to streamline BCD plumbing permit fees*

**Purpose:** Simplifies the method of calculating plumbing permit fees. The rule changes the fee methodology used by the division in its areas of jurisdiction and is intended to be fee neutral. Effective October 1, 2004.

The division’s current method of calculating a plumbing permit fee is based on the number of plumbing fixtures or measurements of various piping systems that will be installed. The new fee method uses flat rates when practical or new, simplified methods of determining fees. The division expects the new method to improve customer service by streamlining the plumbing permit process for our customers and staff.

For more information on BCD rulemaking, contact the rules coordinator, Heather Gravelle, (503) 373-7438, or send e-mail to [heather.l.gravelle@state.or.us](mailto:heather.l.gravelle@state.or.us). ■

## Executive board appointments

The Rules and Executive Appointments Committee met Wednesday, November 17. The results from that meeting will be posted on each board’s page at <http://www.oregonbcd.org/boards/boards.html>.

# “Safe glass” advocates present a certificate of appreciation to BCD



At a news conference hosted by State Senator Vicki Walker in October, BCD received a certificate from Advocates for Safe Glass for helping Oregon to become the first state in the nation to adopt a code change ensuring the safe application of wired glass in all occupancies.

Senator Walker and Greg Abel, chair of Advocates for Safe Glass, worked with code officials, members of Congress and the Consumer Product Safety Commission (CPSC) to bring awareness to this issue and to advocate glass safety. The International Code Council (ICC), the regulatory body that oversees the development and implementation of the International Building Code, voted to restrict the use of wired glass on May 19, 2004. On September 30, 2004, the ICC's board of directors rejected an appeal filed by wired glass manufacturers. The code change will now become a part of the International Building Code to be adopted by states across the country.

## *Wired glass Q & A*

**What is it?** Wired glass (or wire glass) is a glass product that contains a layer of wire netting. The material is fire resistant and used in fire-rated assemblies such as doors and windows in commercial structures, including hospitals, schools, and gymnasiums.

**What's the issue?** Safety. While wired glass can withstand heat, it does not comply with the acceptable minimum standard for withstanding human impact, which has resulted in a number of injuries, many of them serious.

**What did Oregon do about it?** Oregon took a stand, and in October 2003, became the first state in the nation to ban the use of wired glass in schools and gymnasiums. In October 2004, it banned wired glass in all new commercial construction.

During the debate, BCD took the position that it is reasonable to adopt standards based on national standards, to be consistent with neighboring states, and to ensure that glass subject to human impact meets Consumer Product Safety Commission standards.

**What was the process?** In 2003, the state's Structures Board asked BCD to adopt a wired glass prohibition that went beyond national requirements. The board recommended a complete ban of all glass, including wired glass installed in areas where human impact is likely, if it doesn't meet Consumer Product Safety Commission standards.

After public input, Oregon's Building Codes Division proceeded with a two-step approach:

1. In October 2003, BCD banned the use of any glass, including wired glass, that does not meet CPSC standards in athletic facilities and buildings housing grades K-12.
2. On October 1, 2004, BCD expanded the ban to all other newly constructed commercial buildings.

**An important note:** The ban on wired glass applies only to new construction or new installation of glass. Oregon's wired glass code is not retroactive. However, retrofit and repair of current installations must meet the new requirements.

**Who has been involved?** Over the past three years, advocates, several user groups, government entities, the wired glass industry, and the design community have discussed wired glass and its uses and proposed regulatory changes in Oregon.

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**Why was wired glass allowed in the first place?** The Consumer Product Safety Commission sets impact standards and test criteria for glass. A temporary exemption from those standards was granted in 1977, to allow time for development of a product that would meet both impact and fire safety. Historically, national building codes have allowed the exemption to continue because there were no products that could withstand fire and impacts in tests. Industry changed over time, and, today, there are glazing products that meet both fire and impact requirements.

**What about the new codes?** The new international building codes mirror Oregon's 2003 standards. The two leading national-building-code organizations adopted provisions that require all glass installed in athletic facilities and buildings housing K-12 students to meet the more stringent CPSC standards. Glass installed in these buildings must now withstand accidental human contact or human impact.

Most states in the U.S. have adopted these new standards. Regionally, Washington and Idaho are following the new requirements and California is reviewing the issue.

For more information, go to <http://www.oregonbcd.org>. ■

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## 2005 tri-county code-forum schedule

TRI-COUNTY  
SERVICE CENTER



Clackamas  
Multnomah  
Washington  
COUNTIES

Inspectors, building officials, contractors, architects, and engineers should mark their calendars now with tentative code-forum dates and times. The final schedule will be posted on the BCD Web site, <http://www.oregonbcd.org>, by mid-December.

All code forums are from 4 to 7 p.m.

### *Plumbing Code Forum*

Sunnybrook Service Center  
9101 SE Sunnybrook Road, Clackamas  
Thursdays  
March 3, June 2, Sept. 8, and Dec. 1

### *Electrical Code Forum*

Multnomah County Board Room  
501 SE Hawthorne, Portland  
Thursdays  
March 10, June 8, Sept. 15, and Dec. 8

### *Building Code Forum*

Multnomah County Board Room  
501 SE Hawthorne, Portland  
Wednesdays  
March 9, June 8, Sept. 7, and Dec. 7

### *Residential Structural Code Forum*

Multnomah County Board Room  
501 SE Hawthorne, Portland  
Wednesdays  
March 23, June 1, and Sept. 21

### *Mechanical Code Forum*

Multnomah County Board Room  
501 SE Hawthorne, Portland  
Thursdays  
March 24, June 15, and Sept. 14

# Tri-county code-forum Q & A's

TRI-COUNTY  
SERVICE CENTER



Clackamas  
Multnomah  
Washington  
COUNTIES

Please note the new format for this section of *CodeLink*. In the past, we have inserted copies of the most-recent newsletters, *News Flash*, *News Splash*, *News Connect*, *News Site* and *News Line*. We hope you find this new format more convenient.

The following questions and answers resulted from code forums held in the tri-county area this spring. The purpose of the code forums

is to discuss regional code applications and reach consensus on consistent inspection and installation standards for the tri-county region. Tri-county building officials have agreed to use the code panel's determinations for inspection standards. The Electric and Elevator Board has verified the tri-county electrical-code determinations as interpretations applicable statewide. ■

## News Line, December 2004- February 2005



### September 22 forum Q & A

**Q** When there are several properties under the same ownership, how do you treat property lines?

**A** Contact your local jurisdiction. The answer depends on which jurisdiction you're in and must be judged on a case-by-case basis. Suggestions from the panel included the use of a covenant (not to sell separately) or a lot line adjustment.

### Requirements for bedrooms and dens in high-rise construction.

The floor plans for dwelling units each have an interior room labeled "den." In one unit, the den has a clothes closet. The den in the other unit does not have a closet. Assuming these units are not in a building complying with the requirements of Chapter 4 for a high-rise building, please respond to the following questions:

**Q** Is the den with the clothes closet considered a sleeping room for purposes of applying emergency egress requirements? Is the den that does not have a closet considered a sleeping room for purposes of applying emergency egress requirements?

**A** The applicant is required to label the rooms accurately. If the room has a closet and is labeled "den," building departments should accept the designation and make no assumption that it will be used other than how it is labeled. For example, many living rooms have closets but are not treated as sleeping rooms.

**Q** For purposes of applying the requirements for natural light, will the opening between the den and the entry hallway meet the requirements of Section 1204.1 so the den can be considered a portion of the living/dining area and can borrow natural light from the living/dining area?

**A** Yes, if it meets the qualifications of the opening described in Section 1205.2.1 of the 2004 OSSC.

**Q** Assuming the den is not provided with mechanical ventilation, will the opening between the den and the entry hallway meet the requirements of Section 1204.1 so the den can be considered a portion of the living/dining area and can borrow natural ventilation from the living/dining area?

**A** Yes, if the opening meets the minimum-opening requirements of Section 1203.4.1.1 of the 2004 OSSC.

**Q** Are special fasteners (e.g., stainless or galvanized steel) required when pressure-treated lumber is used in locations subject to moisture?

**Code reference:** Section 1108.4.5: Where food or drink is served for consumption by customers, at counter exceeding 34 inches high, a portion of the main counter, a minimum of 60 inches long shall be provided in compliance with Section 1109.18.

**A** The panel tabled this question pending further research.

**Q** Are there situations in which an accessible table adjacent to a bar counter can be provided instead of a 60-inch-long portion of the bar counter lowered to 34 inches?

**A** Bar counters in restaurants and lounges are usually 36 to 44 inches high for patrons on bar stools. Ice and drink dispensers, coolers, sinks, and other equipment are typically built into the bartender's side of the counter. It is common for small restaurants to propose a 6-foot-long to 8-foot long bar.

**Section 1108.4.5 eliminates raised bar counters five feet long or less. Bar counters less than 10 feet long are impractical because the remaining raised portion is less than five feet long. This results in the restaurant not having a raised bar, which seems overly restrictive.**

**Note that The Americans with Disabilities Act Accessibility Guidelines (ADAAG) Section 5.2 allows bar service to be provided at accessible tables within the same area as the raised counter.**

**A** Section 1101.6 references ORS 447.250 and allows waivers or modifications if the code section is more restrictive than ADA guidelines or the Fair Housing Act. If the new ADAAG guidelines allow this alternative, the applicant may be able to appeal to the state. It could also be approved at the local level as an alternate method, but jurisdictions may be hesitant to make this approval without guidance from the state.

It seems that if a table is assigned for use as an "accessible table" and is made available for use when needed, it could fulfill the requirement. However, if the table was in use when needed, patrons would have to be relocated to make room for the physically challenged user.

**Q** Will the text in 302.2.1, which states that assembly spaces accessory to Group E are not required to be considered separate occupancies, be interpreted in tri-counties to mean that there is no occupancy separation required? Table 302.3.2 indicates two-hour separation is required, which seems to conflict with 302.2.1. The spaces we are curious about typically include gymnasiums, school cafeterias, and possibly school libraries.

**A** The code section refers to assembly occupancies accessory to Group E, which means they are not required to be separate. If there was an A occupancy adjacent to the E but under separate control, they would need the appropriate occupancy separation.

**Q** Paragraph 303.1 states that assembly spaces accessory to Group E in accordance with 302.2 are not considered assembly occupancies. Will that be the case for K-12 public school buildings in tri-counties? If yes, are these uses classified as E for the purposes of determining occupant load, egress width, etc.?

**A** Section 302.3.1 states that for non-separated uses, all other code requirements shall apply to each portion of the building based on the use of that space. The exiting requirements for the assembly portions of the building need to meet the requirements based on that use.

### Previous issues available on Web site

Previous issues of *News Connect* (mechanical), *News Flash* (electrical), *News Site* (homebuilding), *News Splash* (plumbing), and *News Line* (commercial building) are available on the BCD Web site. Go to [www.oregonbcd.org](http://www.oregonbcd.org), then click on "Publications."



Sept. 16 code forum Q & A

**Q** The contractor is required to install a four-inch sewer on a three-bath house that has a sewage ejector for the basement bath. Typically, three-inch sewer lines can handle up to 3-6 FU traps (water closets). The addition of the fourth toilet would require the installation of a four-inch sewer. Drains serving an ejector have to be sized according to the discharge rate of the pump. There are two tables in the plumbing code that deal with FUs and GPM for pump discharges. The first table has a much lower FU value because it specifies intermittent flows. The second table is for continuous flows and carries a higher FU value. I think the inspector is looking at the wrong table. So, the question is: When sizing drainage piping that serves a sewage ejector for a single bathroom, is the discharge considered continuous (section 703.2) or intermittent (Table 7-4)? These code sections are out of the OSPSC.

**A** This house would require a four-inch sewer line and the discharge is considered continuous in this instance. A four-inch sewer line is required whenever there is a sewage ejector.

**Q** Do plumbing piping penetrations of exterior concrete building walls or foundation walls have to be caulked or sealed watertight?

**A** Yes, with some exceptions for drainage pipes in foundations. Refer to OSPC Sections 313.8 and 313.10.4. The installer should refer to the manufacturer's recommendations for approved caulking materials. There should also be a foundation drain. Refer to the January 3, 2003, state plumbing code interpretation.

**Q** When installing the groundwork for a restaurant, and the GPM-discharge rating of a food-preparation sink is unknown because the figures are not supplied by the manufacturer, supplier, or engineer, how is the required size of the indirect waste receptor determined?

**A** Please reference the footnotes to Table 7-3. Generally, indirect waste receptors are based on the total drainage capacity of the fixtures that drain therein.

**Q** When two fixtures drain into an indirect waste receptor, is the size of the receptor and its trap calculated by converting the GPM discharge for each fixture into fixture units and adding the fixture units, or is it calculated by adding the GPM discharge of both fixtures and then converting the total into fixture units?

**A** Refer to Table 7-4. You calculate the drainage capacity of the fixtures and convert to fixture units.

**Q** Is a cleanout required to be installed in a 1½-inch trap arm serving a lavatory that has a total horizontal change in direction of 135 degrees when the trap arm is located above the first floor of the building?

**A** Yes. Refer to Section 1002.3.

**Q** Is a cleanout required to be installed on the foot-vent portion of an island sink venting arrangement when the foot vent is located above the first floor of the building?

**A** Yes.

**Q** What is meant by the term "fullway valve"?

**A** Full flow.

**Q** Can an oversized globe valve be used if the total cross-sectional area of the waterway is equal to or greater than the cross-sectional area of the pipe?

**A** No.

**Q** How many seismic straps do we need on a water heater if the tank is on the floor? I've been told one and two on a 50-gallon tank.

**A** Refer to Interpretive ruling 93-94. One strap is required for water heaters less than 12 inches above the floor.

**Q Who can repair RP backflow devices and what license and training is required?**

**A** Refer to ORS 693.020. A licensed journeyman plumber is required to install, replace, or repair a backflow device.

**Q Is metal plumber's tape acceptable for seismic strapping?**

**A** Yes, refer to the Oregon Structural Specialty Code, Volume 2, Chapter 16, Section 1632.

**Q Can a minor label be used when converting from a conventional water heater to an instantaneous water heater?**

**A** Yes, a minor label may be used as long as 20 feet or less of accessible piping is involved. Code requirements still apply. Refer to the manufacturer's instructions for proper installation. A contractor also must obtain a mechanical permit for converting the fuel source and an on-site inspection is required for the mechanical portion of the installation.

**Q Is a mechanical permit required as well as a plumbing minor label on other types of water-heater conversions?**

**A** Yes. Any type of conversion requires both a plumbing minor label and a mechanical permit.

**Q When will the new plumbing code be adopted?**

**A** April 1, 2005.

**Q Which plumbing code changes also will apply to the new Oregon Residential Specialty Code?**

**A** Most of them. The Plumbing Code Change Committee is keeping a list to present to the Residential Specialty Code Committee.

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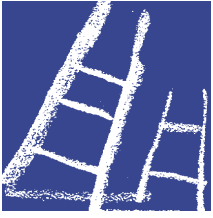
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## September 23 code forum Q & A

**Q** In a recent plan review, the plans examiner noted that we had combined the restroom exhaust with the lunchroom exhaust and commented that they needed to be separate ducts according to the 2002 OMSC, Section 501.2 (the 2004 OMSC has deleted this section). I reviewed the International Mechanical Code Commentary book and it isn't clear. We have combined general and restroom exhaust for years. Please clarify.

**A** Because the current code doesn't address this issue, the manufacturer's installation instructions should be followed; in lieu of those, contact the manufacturer's technical staff for verification of a particular installation. The length and configuration of an exhaust fan duct can greatly change the output rating (CFM) and effectiveness of the fan. Therefore, when an installation is questioned, performance testing may be necessary to verify that the minimum CFM is being exhausted in affected areas. As alternatives to performance testing, an engineered design or a multi-port exhaust fan designed for multiple inlet locations would be acceptable.

The connection to the lunchroom exhaust could be somewhat problematic, especially if the lunchroom exhaust fan is used as a means of occupancy ventilation, as required by Chapter 4 of the OMSC. The connection of the two systems should be methodically designed to ensure adequate ventilation of the lunchroom area and no back drafting from the bathroom. At the least, performance testing is necessary to verify the minimum CFM is achieved in affected areas.

**Q** Does a gas appliance that is connected to the electrical system by a cord and plug and utilizing an existing outlet have to be bonded?

**A** Yes, it must be bonded.

**Q** Most manufacturers state clearly in their installation instructions:

**“WARNING: Do not use this furnace as a construction heater. Use of this furnace as construction heater exposes the furnace to abnormal conditions, contaminated combustion air and lack of air filters.**

**Failure to follow this warning can lead to premature furnace failure and/or vent failure which could result in a fire hazard and/or bodily harm.” Are there jurisdictional parameters?**

**A** No. This is not a code issue.

**Q** May an anodeless riser be lengthened on its vertical leg (to bring it above grade) with the addition of ferrous pipe in a sleeve sealed to the riser or wrapping the ferrous pipe with a protective coating?

**A** Refer to Chapter 24, in the Dwelling Code. This particular scenario is not identified in the code; however, Section G2413.6.1 regulates the use of an anodeless riser and indicates the need to follow the installation instruction from the manufacturer. When there is any doubt about the proper method of installation, contact the manufacturer for verification. Although the panel found nothing in the code specifically prohibiting the extension of an anodeless riser, caution should be taken to ensure the manufacturer's warranty is not voided and that other parts of the code are followed.

**Q** Regarding condensate pumps, is it possible to use the low-point drain in the foundation wall for an approved drain location for an A/C or a furnace drain?

**A** No.

**Q** In the OSSC, Chapter 13, Energy Conservation, effective 4/1/04, under what circumstances are economizers required on HVAC systems such as simple systems, complex systems, package systems, central systems, and split systems?

**A** Because energy provisions are found in the Oregon Structural Specialty Code, and no one at the forum had the appropriate codebooks, this question could not be answered. This subject may be best addressed at the structural code forum. Anyone wanting to see these provisions without buying the structural codebook can visit the Oregon Department of Energy's Web site, [http://www.energy.state.or.us/code/ccm/2003\\_Ch13-eff040104.pdf](http://www.energy.state.or.us/code/ccm/2003_Ch13-eff040104.pdf). Information on the site concerning economizers is on Pages 140.13-140.20.



## September 15 forum Q & A

**Q Who do you talk to about looking at a house that has been worked on without a permit to see what needs to be checked for code violations before you buy it?**

**A** Call your local jurisdiction to find out about its inspection program. Many jurisdictions will help homeowners get the necessary permits to bring their home up to code. Current real estate law requires home sellers to fully disclose any remodeling work done on a house and whether or not it was permitted. See [www.permitsprotect.info](http://www.permitsprotect.info) for more information on permits and how to contact the local building department.

**Q This is a question regarding State Bill 711 that allows municipalities to forgo residential plan review if the plans for the dwelling are designed and stamped by a certified architect or engineer. Has this bill been enacted? How does one become certified (where are classes taught)? Has anyone been certified thus far? Have code officials had an architect or engineer submit plans?**

**A** This bill goes into effect October 1. All licensed engineers and architects are eligible to take the examination. The certification testing involves a three-hour open-book exam administered by BCD. Questions are based on the 2002 Edition of the Oregon 1 & 2 Family Dwelling Specialty Code. The cost for application and exam is \$22. Once certified, an individual must participate in a minimum of six class hours of continuing education every year and take a code-change class about every three years or whenever the code changes in Oregon. Once registered architects or engineers are certified as one- and two-family plans examiners, they may submit plans to the local jurisdiction under their professional stamp and their BCD certification. Although such plans may be exempt from plan review, the local jurisdiction will do a quick review of the submittal (site plan, design assumptions, etc.). The bill does not exempt architects and engineers from permits, site inspections, or other requirements such as planning, zoning, or local ordinances.

**Q We have had some issues in Washington with stair railing size discrepancies that may also occur in Oregon. The Washington 1-2 family code says stair railings can be up to 2.5 inches wide and some local jurisdictions require 2 inches, maximum. When doing heavy-timber houses, this is an issue. What are the requirements in Oregon?**

**A** Washington adopted the 2003 Edition of the International Residential Code and Oregon still uses the 2000 Edition of the IRC as its base code. The 2003 edition has lowered its maximum width for handrails from 2<sup>5</sup>/<sub>8</sub>" to 2<sup>1</sup>/<sub>2</sub>", plus local jurisdiction in Washington are able to modify or amend the code on a local basis, and this is where the differences stem from. As far as Oregon is concerned, we use the model code language in the 2000 IRC, Section R315.2 which states: "The handgrip portion of handrails shall have a circular cross section of 1<sup>1</sup>/<sub>4</sub> inches minimum to 2<sup>5</sup>/<sub>8</sub> inches maximum. Other handrail shapes that provide an equivalent grasping surface are permissible. Edges shall have a minimum radius of 1/8 inch."

**Q Will the new low-rise residential code change the state's requirements for a registered architect or engineer on residential projects larger than a duplex or more than 4,000 square feet?**

**A** No. The architect and engineer's law is not changing because of the new low-rise residential code. The architect law does not require stamped plans for single family dwellings and their accessory buildings (no size limitations), and buildings under 4,000 square feet and less than 20 feet in height that do not require a fire-and-life-safety-plan review.

**Q Are there any exceptions to the requirement that private suspended driveways meet the requirements of AASHTO HSW-15?**

**A** The Dwelling Code does not specifically address private residential suspended driveways or bridges. Local jurisdictions usually adopt, through local ordinances, their local fire code provisions regulating these types of structures. For alternate methods or standards when constructing a private bridge or suspended driveway, check with the local jurisdiction.



## September 9 code forum Q & A

**Q Are fuse holders with a break-away feature suitable for use as the disconnecting means in stand-alone light-pole installations?**

**A** In single light-pole installations that have connections to the light-pole circuit in a location typically accessible only to qualified persons, the use of approved, certified fuse holders should be allowed. When using a fuse holder creates more of a hazard than using a service-rated-and-marked disconnecting means, that means should be used.

**Q Are licensed limited-maintenance specialty contractors (LMS) allowed to replace a magnetic ballast with an electronic ballast without additional licensure when they are performing lighting retrofits? Can an LMS contractor work in signs?**

**A** An LMS contractor can upgrade lighting fixtures by changing from magnetic to electronic ballasts. LMS contractors cannot relocate existing fixtures, add new lighting fixtures, or permanently change fixtures from incandescent to fluorescent. Maintenance is restricted to inside the fixture shell and limited to ballasts, lamp holders, and equipment that is part of the lighting fixture. An LMS contractor cannot perform maintenance or repair or replace ballasts or transformers in a sign.

**Q Service change on existing homes: Do you need to ground within five feet of the water service?**

**A** When an underground metal water pipe is visible for 10 feet, it is verifiable as an electrode, and must be bonded within five feet of where it enters the building. If the water pipe is not verifiable as an electrode, it must be bonded at any accessible location. A metal water pipe must be supplemented per NEC 250.53(D)(2). To see the Statewide Interpretation on the BCD Web site, go to [www.oregonbcd.gov](http://www.oregonbcd.gov), then click on "Interpretations," and "Electrical."

**Q Do you need to arc fault the bedroom circuits on this job?**

**A** No. See the Statewide Interpretation, as above.

**Q A room addition has a concrete-encased electrode ground and a new sub-panel. Do you use the concrete-encased electrode ground for the sub-panel?**

**A** Yes. A concrete-encased electrode for the sub-panel is allowed as a supplemental electrode per NEC 250.54. The equipment-grounding conductor in the feeder is the main ground for that sub-panel.

**Q My locksmith company wants to offer electronic access control to customers. As a licensed general contractor through CCB, can we hire other companies to do the wiring if we don't have an electrician with a low-voltage license on staff? If so, can we advertise the fact that we can do this type of work for our customers?**

**A** In order to advertise that your company does electrical work, you must be a licensed electrical contractor. Your company may, however, hire other (electrical) companies to do the electrical work.

**Q Do the minor label rules allow you to reconnect an electric furnace of over 30 AMPs with a minor label?**

**A** Yes. See OAR 918-309-0220(2)(e)

**Q If the serving utility de-energizes a service so a siding contractor can side behind a meter base and mast, is a city/county permit and inspection required before the utility can reconnect the service?**

**A** ORS 479.540 requires either an inspection or letter of reconnect from a signing supervisor.

**Q Can we extend an existing ungrounded circuit to feed an attic exhaust fan if we GFCI-protect it?**

**A** Yes. Refer to NEC 250.130C.

**Q** Office/dens and bonus rooms with closets and egress window are considered bedrooms and require smoke alarms and arc fault protection. At what point are they not considered bedrooms? Example: an office/den has dedicated circuits for computers and fax and copy machines. A bonus room has a wet bar with dedicated circuits for refrigerator, wine cooler, disposal, dishwasher, and entertainment center.

**A** If the room is labeled as a den on the plan, the room may be wired for a den, not a bedroom.

**Q** Are we going to be allowed to use the new “smart boxes” with internal mounting screws at the front of the box? They are UL listed.

**A** The panel agreed that the boxes could be used because they are listed.

**Q** There was much discussion about the following, from the April code forum: When counting the total degree of bends in a conduit run that can be installed before a pull/junction device is required, should you take into account the flex and the 90-degree flex connector at the end of the run that goes to the motor (hot tub circuit)? Common sense dictates that the flex and connector will be removed if new wiring has to be installed.

**A** Refer to the Policy Committee for consideration of intent of Article 348.26 of the 2002 NEC. The panel asked the state code chief to reconsider.

**Q** Could a minor label be used when installing a new circuit for an AC unit and extending a circuit for the required servicing receptacle (per NEC 210.63)?

**A** No.

**Q** When a water service is changed to plastic piping, could a minor label be used to establish a new grounding electrode?

**A** The panel agreed that regulations call for an inspection of each grounding electrode. However, there were differing views on whether, in this case, one was establishing an electrode or replacing one. State Electrical Chief John Powell noted that a rule language change would be required to allow this.

**Q** Is a multi-family building such as a four-plex treated as a site allowing only one minor label? Can we use a minor label to work in all the apartments (with separate addresses)?

**A** A multi-family building is not treated as a site allowing only one minor label. Each address is a separate jobsite and a minor label can be used at each address. The rules allow one label per project per jobsite.

# Compliance report

The Electrical and Elevator Board found the following violations of the Oregon Electrical Safety Laws in August 2004:

CITY	NAME	VIOLATION	PENALTY
Beaverton	Joel Alex Godvin	Allowed unlicensed individual to make electrical installation (2 violations), as supervising electrician, failed to ensure individuals had proper licenses to make electrical installation (2 violations)	\$4,000
Beaverton	Scott Dulaney Performance Systems Integration Corporation	Allowed unlicensed individual to make electrical installation, no electrical permit	\$2,000
Beaverton	Ron Madden Madden Industrial Craftsmen	No electrical contractor license	\$1,000
Bend	Dana R. Anderson Serrao, Watts Up Electric	Allowed unlicensed individual to make electrical installation, no electrical permit	\$2,000
Bend	William D. Ehrens	No supervising or journeyman license	\$1,000
Boise, ID	E. Dean Buckford Aim Sign Company Inc.	No electrical contractor license, no electrical permit (3 violations)	\$4,000
Cottage Grove	Gregory A. Crail Crail Electric	No electrical contractor license, no electrical permit	\$2,000
Cove	Wade Johnson	As supervising electrician, failed to ensure permit was obtained (20 violations)	\$40,000
Eugene	Roger D. Burghardt	No supervising or journeyman license	\$1,000
Eugene	Justin F. Coffman, Phantom Inc.	Allowed unlicensed individual to make electrical installation	\$1,000
Eugene	Clark R. Binns Binns Electric Company	Allowed unlicensed individual to make electrical installation	\$1,000
Eugene	Delmer Koskovich	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation	\$1,000
Eugene	Clark R. Binns	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation	\$1,000
Eugene	James C. Hahn James Hahn Construction	No electrical contractor license, no electrical permit, no supervising or journeyman license	\$3,000
Eugene	James B. Campbell	No supervising or journeyman license	\$1,000
Fairview	Mark Anderson	No electrical permit	\$1,000
Falls City	Gary L. Salleng	No electrical permit (2 violations)	\$2,000

Florence	Andy Hadix	No supervising or journeyman license	\$1,000
Hacienda Heights, CA	Thomas Graham	Allowed unlicensed individual to make electrical installation (2 violations)	\$2,000
Hillsboro	Kenneth W. Payne	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation	\$1,000
Keizer	Joe Calzacorta J & C Electrical Repair and Lighting Maintenance	No electrical contractor license, no electrical permit worked outside the scope of journeyman license	\$3,000
Klamath Falls	Robert M. Adams Adams Air-Conditioning & Heating	No electrical contractor license, no electrical permit, no supervising or journeyman license	\$3,000
LaGrande	Cynthia L. Johnson J & J Johnson's Electric, Inc.	No electrical permit (20 violations)	\$40,000
Lake Havasu City, AZ	Larry L. Schubert KMS Construction	No electrical permit, no supervising or journeyman license, unsafe installation	\$3,000
Milwaukie	Daniel P. Jennings Super Service Mechanical	No electrical contractor license, no electrical permit, no supervising or journeyman license	\$9,000
Oak Grove	Philip M. Beecher	As supervising electrician, failed to ensure permit was obtained	\$1,000
Parma, ID	Dave Reynolds Gem Solar Solutions	No electrical contractor license, no electrical permit, no supervising or journeyman license	\$3,000
Pleasant Hill	Jared W. Olsen	Failure to work under the supervision, direction, and control of a supervising electrician	\$1,000
Portland	Frank E. Pausz Bee Electric Service	Revocation of electrical contractor and supervising electrician license	\$0
Portland	Thomas L. Keljo, Security Signs Inc	No electrical permit	\$1,000
Portland	Scott LeClair	No supervising or journeyman license	\$1,000
Portland	Will F. Fackler	Revocation of license	\$0
Redmond	Garin Hagedorn	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation, as supervising electrician failed to ensure permit was obtained prior to installation	\$2,000
Roseburg	David S. Bastian Sr. Addcox Electric, Inc.	Allowed unlicensed individual to make electrical installation, no electrical contractor license, no electrical permit, unsafe installation	\$4,000
Roseburg	David Bastian Jr.	No supervising or journeyman license, unsafe installation	\$2,000
Salem	Glen W. Knickerbocker KRK Construction, Inc.	Allowed unlicensed individual to make electrical installation, no electrical contractor license	\$2,000

Salem .....	Brian D. Knickerbocker .....	No supervising or journeyman license .....	\$1,000
Scotts Mills.....	Steve Teeney .....	Allowed unlicensed individual to make electrical installation .....	\$1,000
	Steve Teeney Electric Inc.		
Sherwood.....	David M. Phipps .....	Allowed unlicensed individual to make electrical installation .....	\$1,000
	Fire Protection Services Inc.		
Vancouver, WA .....	Ron J. Alvey.....	No electrical contractor license, no electrical permit, permitted an unlicensed individual to make an electrical installation.....	\$3,000
	Oregon North Coast Investments LLC		
Woodburn .....	Richard J. Henkes .....	Allowed unlicensed individual to make electrical installation, no electrical permit.....	\$1,000
	Henkes Electric Inc.		
Woodburn .....	Richard J. Henkes .....	As supervising electrician, failed to ensure individuals had proper licenses to make electrical installation, as supervising electrician, failed to ensure permit was obtained .....	\$2,000

The Plumbing Board found the following violations of the Oregon Plumbing Specialty Codes in August 2004:

<b>CITY</b>	<b>NAME</b>	<b>VIOLATION</b>	<b>PENALTY</b>
Astoria .....	Chavez Castro .....	No plumbing journeyman certificate of competency .....	\$1,000
Hillsboro .....	Keith E. Green .....	No plumbing business certificate of registration, no plumbing permit.....	\$2,000
	Keith Green Construction Inc		
Hubbard .....	Arlen Hart.....	Allowing unlicensed individuals to make plumbing installations.....	\$1,000
	The Water Doctor Inc		
Portland.....	Gabriel R. Silva .....	No plumbing journeyman certificate of competency .....	\$1,000
Portland.....	John Dubisar .....	No plumbing business certificate of registration, no plumbing permit.....	\$2,000
	J B S Construction, Inc.		
Stayton .....	Mark Romp .....	Allowing unlicensed individuals to make plumbing installations.....	\$1,000
	Romp Plumbing & Mech Inc		
Stayton .....	Carlos Navardo .....	No plumbing journeyman certificate of competency .....	\$1,000
Tillamook.....	Linda Richardson, PMT Inc. ....	No plumbing journeyman certificate of competency, no plumbing permit.....	\$2,000

The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in August 2004:

CITY	NAME	VIOLATION	PENALTY
Cove	Wade Johnson	Violated a final order	\$750
Hubbard	Arlen Hart, The Water Doctor Inc.	No permit	\$1,000
LaGrande	Cynthia L. Johnson J & J Johnson's Electric, Inc.	Violated a final order	\$750
Klamath Falls	Robert M. Adams Adams Air-Conditioning & Heating	No permit	\$1,000

The Board of Boiler Rules found the following violations of the Oregon Boiler Safety Laws in September 2004:

CITY	NAME	VIOLATION	PENALTY
Auburn, WA	Herbert L. Henkel Ingersoll-Rand	No boiler/pressure vessel business license (2 violations), no boiler/pressure vessel installation permit (2 violations)	\$4,000
Beaverton	John B. Rozell, Alliant Systems LLC	No boiler/pressure vessel installation permit	\$1,000
Bend	David Severson Severson Plumbing. & Mechanical, Inc.	No boiler/pressure vessel installation permit (4 violations)	\$8,000
Medford	Edward S. Curtius Jr. Curtius-Huntley Plumbing Inc.	No boiler/pressure vessel business license, no boiler/pressure vessel installation permit	\$2,000
Portland	Gerald L. Ripley, Air Guy	No boiler/pressure vessel installation permit	\$2,000
Portland	W. J. Mascott III Mascott Equipment Co. Inc.	No boiler/pressure vessel business license, no boiler/pressure vessel installation permit	\$2,000
Portland	Steve Rose, Bristol Equities, Inc.	No operating permit	\$1,000
Seattle, WA	Dean C. Allen, McKinstry Co.	No boiler/pressure vessel installation permit	\$1,000
Vancouver, WA	Lyle Evanson Cascade Fire Safety Inc	No boiler/pressure vessel installation permit	\$1,000
West Caldwell, NJ	T. Pendleton Herring H <sub>2</sub> O Technologies, Ltd	Installation did not meet minimum safety standards, no boiler/pressure vessel installation permit	\$2,000

The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in September 2004:

<b>CITY</b>	<b>NAME</b>	<b>VIOLATION</b>	<b>PENALTY</b>
Bend.....	David Severson ..... Severson Plumbing & Mechanical, Inc.	Violated a final order .....	\$500
Canyon City.....	Greg, Colleen Relling.....	No permit, violated a final order .....	\$1,250
Eugene .....	John Andreason ..... Ehlers Construction, Inc.	No permit.....	\$1,000
Falls City.....	Gary L. Salleng .....	No permit.....	\$1,000
Florence .....	Judy E. Caputo .....	No permit.....	\$1,000
	West Lane Plumbing & Heating Inc.		
Keizer.....	Richard A. Curry .....	No permit.....	\$250
	Budget Rent-A-Space Corporation		
Klamath Falls.....	Richard P. Card .....	No permit.....	\$1,000
	Card Plumbing & Heating Co		
Lebanon .....	Jeffery L. King .....	No permit, violated a final order .....	\$6,000
	Jeff King Contractor, Inc.		
Portland.....	Gregory C. Heisinger.....	No permit.....	\$1,000
Portland.....	Gerald L. Ripley, Air Guy .....	Violated a final order .....	\$1,750
Vancouver, WA .....	Frances Elaine Delaplaine .....	No permit, violated a final order .....	\$6,000
	Boston Restorations		

# Plumbing interpretations



At its October 15 meeting, the state plumbing board approved the following 12 plumbing code interpretations.

**Subject:** Alternate Method Approvals

**Code section:** Oregon Plumbing Specialty Code (OPSC), Section 301.2

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Can plumbing products which are not listed to an approved standard be used as an acceptable alternate method for plumbing which may be approved by the local inspecting jurisdiction?

**A:** No, the state plumbing board must first approve the product standard.

**Subject:** Backflow Protection

**Code section:** Oregon Revised Statutes (ORS), 448.115 to 448.285

**Code edition:** 2003 Edition

**Date:** October 15, 2004

**Q:** Can a water utility require a backflow device be installed on the building water service after the water meter?

**A:** Yes, although the plumbing code does not require a backflow device on a water service, the water purveyor may require one for protection of the water utilities distribution system.

**Subject:** Disinfection of Potable Water Piping

**Code section:** Oregon Plumbing Specialty Code (OPSC), Section 609.9

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Is a water test by a certified testing agency showing the water meets potable standards acceptable as an alternative to the chlorination process described in the code?

**A:** Section 609.9 requires disinfection of water piping whenever required by the administrative authority. The committee feels that small piping additions or alterations can be adequately disinfected by a thorough flushing with clean water and then meeting water quality testing.

**Subject:** Grease Traps

**Code section:** Oregon Plumbing Specialty Code (OPSC), Sections 310.4 & 1014.0

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Are grease traps allowed to drain by an indirect waste to an open receptor?

**A:** No, the manufacturing installation instructions require a direct connection for grease traps. This would create an unsanitary condition.

**Subject:** Location of Water Supply and Building Sewer

**Code section:** Oregon Plumbing Specialty Code (OPSC), Sections 308.0, 609.6, 609.7, 609.7.1, 609.7.2, 721.0, 721.1, and 721.2

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Can sewer and water piping cross property lines without an easement when both properties are owned by the same person?

**A:** No, the plumbing code requires that water and sewer piping be located on the lot which is the site of the building served. If it is necessary to access the water or sewer services from a utility and cross property lines, the code requires that an easement or right-of-way be acquired and be recorded.

**Subject:** PEX Water Pipe for Relief Valves and Water Heater Pan Drains

**Code section:** Oregon Plumbing Specialty Code (OPSC), Section 608.5

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Is PEX tubing with insert fittings approved for water heater relief valve discharge piping or water heater drain pan piping?

**A:** No, section 608.5 only allows specific pipe materials for relief valve piping and PEX is not listed as an approved material. The code does not allow PEX piping for water heater drip pan drains because it does not meet the provisions of section 608.5(1). Section 608.5(1) requires the water heater drip pan drain to be provided with pipe and fittings of the same size and material as required for the relief valve or PVC Schedule 40 pipe and fittings.

**Subject:** PEX Water Piping Under Concrete Slab on Grade

**Code section:** Oregon Plumbing Specialty Code (OPSC), Sections 310.4, 604.0 & 609.0

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Can fittings or joints for PEX tubing be installed below a slab on grade?

**A:** The plumbing code does not prohibit the use of PEX fittings under a slab on grade. It is recommended that the installer consult the manufacturer's installation standard before making the installation.

**Subject:** Backflow Protection

**Code section:** Oregon Revised Statutes (ORS), 447.010, 455.150 and 448.115 to 448.285

**Code edition:** 2003 Edition

**Date:** October 15, 2004

**Q:** Can a water utility require permits and inspections for installation of backflow devices installed on private property as part of a plumbing system?

**A:** No, plumbing systems are required to be inspected by certified plumbing inspectors under permits issued by the local jurisdiction.

**Subject:** Plumbing Licensing

**Code section:** Oregon Revised Statutes (ORS), Chapter 693

**Code edition:** 2003 Edition

**Date:** October 15, 2004

**Q:** Can employees of a utility install and repair backflow devices on the discharge side of a water meter, without a plumbing license, permit or business registration?

**A:** No, piping after the water meter is plumbing and is required to be installed to code by a licensed person.

**Subject:** Thermal Expansion

**Code section:** Oregon Plumbing Specialty Code (OPSC), Section 608.3

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** When non-storage instantaneous water heaters are installed in a closed system (backflow device at meter), are approved devices for thermal expansion required?

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**A:** No, a non-storage instantaneous water heater meeting the requirements of section 608.3 does not require thermal expansion protection. The water heater does not become energized until the outlet faucet is opened. When the outlet faucet is open, it is no longer a closed system requiring thermal expansion.

**Subject:** Transition from Copper to Galvanized Steel Water Piping

**Code section:** Oregon Plumbing Specialty Code (OPSC), Sections 311.6, 313.5, 316.2 & 316.2.1

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Can a transition from copper to galvanized steel water piping be made with a copper male or female adapter without the use of some form of dielectric protection?

**A:** No, section 313.5, requires protection for piping subject to undue corrosion. Section 311.6, requires intermembering of dissimilar metals to be confined to exposed or accessible locations. However, section 316.2.1, allows a transition from a copper water piping system to a galvanized steel piping system when a brass nipple or adapter fitting is used and the joint is accessible.

**Subject:** Water Supply Shut Off Valves

**Code section:** Oregon Plumbing Specialty Code (OPSC), Sections 203.0 & 605.2

**Code edition:** 2000 Edition

**Date:** October 15, 2004

**Q:** Is it acceptable for the required shut off valve for each separate building to be located in the crawl space?

**A:** Yes.

**Q:** If yes, what would determine the accessibility?

**A:** The code states that “accessible” means having access thereto, but which may first require the removal of an access panel, door, or similar obstruction. It is the committee’s opinion that the valve located in the crawl space should be readily accessible when the access panel, door or crawl space obstruction is removed. ■

# Electrical interpretations



**Subject:** Limited Maintenance Specialty Contractors

**Code section:** ORS 479.630  
OAR 918-282-0050

**Date:** August 11, 2004

## *Question:*

Are licensed limited maintenance specialty contractors (LMS) performing lighting retrofits allowed to replace a magnetic ballast with an electronic ballast without additional licensure? Can an LMS contractor work in signs?

## *Analysis:*

The issue of retrofitting or upgrading lighting fixtures has been raised frequently due to the incentives offered by utility companies, and the energy savings generated by moving away from the old style magnetic ballasts. Oregon Revised Statute 479.630(12) grants authority to an LMS contractor to change ballasts. Additional clarification is provided in Oregon Administrative Rule 918-282-0050(1)(b) allowing ballast change-out by replacement and also maintenance inside the shell of the lighting fixture.

## *Determination:*

LMS contractors can upgrade lighting fixtures by changing from magnetic to electronic type ballasts. They may also perform maintenance within the shell of the fixture but may not permanently change fixtures from incandescent to fluorescent. LMS contractors cannot relocate any existing fixtures or add new lighting fixtures. Maintenance of the fixture is restricted to inside the shell of the fixture and is limited to ballasts, lamp-holders and equipment that is part of the lighting fixture. An LMS contractor cannot perform maintenance, repair or replace ballasts or transformers in a sign.

**Subject:** Energized Circuit Breakers

**Code edition:** 2002 Oregon Electrical Specialty Code

**Date:** October 1, 2004

## *Question:*

Is it permissible to land phase conductors on the appropriate circuit breakers before completion of the electrical installation and attachment of final devices?

## *Analysis:*

The issue of when conductors should be landed on circuit breakers has existed for several years. Depending upon the jurisdiction, inspectors have required breakers to be installed at the rough-in inspection, required conductors to be landed at the rough-in inspection, not allow breakers to be installed at the rough-in inspection or something in between. Although the 2002 National Electrical Code and Oregon Electrical Specialty Code do not adequately cover this issue, the intent of the Oregon Electrical Safety Law is quite clear. The Oregon Electrical Safety Law's stated purpose is to protect persons and property from electrically caused shocks and fires. Landing a phase conductor on a circuit breaker prior to attaching the final device or otherwise ensuring the installation is left in a safe condition is a violation of the Oregon Electrical Safety Law (ORS 479.710). Too often, all the circuit breakers have had the phase conductors landed without ensuring that final devices are attached or the installation is in a safe condition. Typically, persons will turn on all breakers in a panel looking for a particular circuit thus exposing persons to possible electrical shock.

## *Determination:*

Circuit breakers may be installed prior to final attachment of devices but shall not have phase conductors attached unless left in a safe condition such as, being taped off or having a proper wire nut or other insulating type protective device installed. ■

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# BCD board meeting dates

Sun	Mon
1	2
8	9

## ELECTRICAL & ELEVATOR BOARD

**Meets at 9:30 a.m. on the fourth Thursday of every other month:**

- December 16

## BOARD OF BOILER RULES

**Meets at 9:30 a.m. on the first Tuesday of each quarter:**

- December 7

## BUILDING CODES STRUCTURES BOARD

**Meets at 9:00 a.m. on the first Wednesday of every other month:**

- December 1

## STATE PLUMBING BOARD

**Meets at 9:00 a.m. on the third Friday of every other month:**

- December 17

MEETINGS ARE HELD IN THE SALEM  
BCD CONFERENCE ROOM AT 1535 EDGEWATER ST. NW.  
Meetings may be canceled or rescheduled. Call BCD to check, (503) 378-4133.

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# Tri-County code forum dates

Sun	Mon
1	2
8	9

## ELECTRICAL

**Meets 4-7 p.m. Thursday**

- December 9

## MECHANICAL

**Meets 4-7 p.m. Tuesday**

- December 14

## PLUMBING

**Meets 4-7 p.m. Thursday**

- November 18

## RESIDENTIAL STRUCTURAL

**Meets 4-7 p.m. Wednesday**

- December 15

## COMMERCIAL STRUCTURAL

**Meets 4-7 p.m. Wednesday**

- December 1

### CODE FORUM LOCATIONS

PLUMBING, Sunnybrook Clackamas County Auditorium, 9101 S.E. Sunnybrook Road

ELECTRICAL, MECHANICAL, RESIDENTIAL & COMMERCIAL, 501 S.E. Hawthorne, Portland

# CodeLink switching to online-only format in 2005



Beginning in March 2005, *CodeLink* will become an online-only publication. We've made this decision to cut printing and mailing costs, reduce environmental impacts, and make better use of the Web site. If you want e-mail notification that we've posted *CodeLink* to the Web site, please request notification by phone or e-mail to Christie Triplett in the Portland Tri-County Service Center, (503) 872-6731 or [Christie.L.Triplett@state.or.us](mailto:Christie.L.Triplett@state.or.us). *CodeLink* will be updated and posted in March, June, September, and December. ■

## CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

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