

# CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

NOVEMBER/DECEMBER 2000

## Tri-County Service Center update

by Joan Stevens-Schwenger



The Tri-County Building Industry Service Board and its committees have been working throughout the summer to meet legislative deadlines and to brainstorm new avenues of cooperation. Here are the newest developments.

### Standard processes for recording inspections and issuing permits when no plan review is required

Contractors working in the Portland Metropolitan tri-county region now have a simple “blueprint” for recording inspections on all job sites. The board recently approved a process requiring the inspector to leave a “job card” or some other form of written documentation at the job site. **All contractors are asked to leave a weatherproof container on site** for the record. (Examples include a mailbox, a plastic real-estate brochure box, a secured waterproof envelope, or a job shack.) Electricians will be notified by inspectors after every inspection.

Tri-County Service Center update .....	1
Chief plumbing inspector plumbing code interpretation.....	4
Code Forum April 2000 Q&As .....	4
Staff advisory issued.....	14
Updated non-residential energy code compliance manual available .....	15
Board reappointments .....	15
Compliance Report .....	16
Interpretive ruling signed .....	22
Stakeholder meeting scheduled for Jefferson and Crook counties .....	22
Board meeting dates .....	23

---

## Tri-County Service Center update, *continued*

If permits are not associated with projects requiring plan review, applicants can quickly find out if their application has been accepted. The jurisdiction will notify them of acceptance and issue the permit or let applicants know if they must submit other information.

For more information, check the Tri-County Service Center Web site: <http://www.oregonbcd.org/tricounty/checklistprocedures.htm>.

### Permit application forms

On October 1, all jurisdictions in the tri-county area began using a standard format for electrical, plumbing, mechanical, and building permit application forms, and the review checklist for one- and two-family dwelling plans. Each jurisdiction includes its own contact information and fees, but contractors and homeowners applying for permits in multiple jurisdictions will find that all the application forms look the same. If a jurisdiction has specific requirements, that information is requested under “Other” or “Jurisdictional Specific Information.”

Contractors can also print the forms from the Tri-County Service Center “forms” Web page, <http://www.oregonbcd.org/tricounty/triforms.htm>, to use in any jurisdiction.

“Our goal was to take the guesswork out of the application process,” said Clint Hilman, City of Gresham building official and chairman of the Tri-County Building Industry Service Board Forms and Processes Advisory Committee. “Through these forms, we’ve succeeded in standardizing the information we require from permit applicants,” he added. The advisory committee is working on a commercial-plan-review checklist and processes for deferred submittals and phased permitting.

### Commercial checklist, phased permitting and deferred submittals

The Forms and Processes Advisory Committee and several work groups have been crafting a plan-review checklist for commercial construction as well as a process for deferred submittals and phased permitting. Board and forms committee member Rob Yorke Jr., Yorke and Curtis, said that while the checklist is comprehensive, he believes it will save architects, builders, and contractors time, money, and frustration.

“The checklist lets us know exactly what we must provide for plan review,” said Yorke.

The committee has held industry briefings to find out what architects and developers think of the checklist and process.

“Some sessions have been rather lively,” said John Lape, board member and Portland architect.

Lape organized a briefing in late September attended by about 100 architects.

“We’re receiving very constructive ideas and suggestions,” he said. “Our goal is to craft a checklist that meets the needs of all affected parties: developers, plan reviewers, and architects.”

Those interested in reviewing and commenting on the committee’s commercial checklist should call Jim Muir, Washington County Building Services supervisor, 503-687-6760. Muir chairs the plan review work group that is drafting the check list.

### Fee methodology

Tri-County’s uniform fee methodology became effective October 1. While fees may still vary from jurisdiction to jurisdiction, depending on the value of the property or equipment, the method by which fees are calculated is the same.

*Please see “Tri-County Service Center update,” Page 3*

---

## Tri-County Service Center update, *continued*

Adopting the new system presents a number of challenges to building departments. “Adjusting our current fee tables to correspond to the new structure was more problematic than we first thought,” said Ricky Icenogle, the acting building official for the City of Hillsboro. “For example, we currently calculate commercial mechanical fees per piece of equipment. Tri-County’s methodology is based on the valuation of the equipment. It’s like comparing apples to oranges.”

According to Kevin Wing of the Homebuilders Association, “comparing apples and oranges” has been precisely the problem for contractors and developers. “Builders working in multiple jurisdictions had to deal with multiple fee tables and methodologies,” said Wing. “Having a standard methodology makes it possible for contractors to accurately compare and predict what fees they will have to pay in a jurisdiction. The board’s goal was to introduce uniform fee methodologies throughout the region without raising fees.”

Jurisdictions must maintain “revenue neutrality” when converting their methodologies — meaning that the conversion cannot result in fee increases. Nearly every jurisdiction must convert one or more categories of fees to reflect the new method. More information is available on the Tri-County Building Industry Service Board Web site.

### Qualification review and training for structural and mechanical plan reviewers and inspectors

At the September Tri-County Building Industry Service Board meeting, the group approved recommendations from the task force that examined the qualification-review process available to applicants for structural and mechanical inspector and plan reviewer certifications and in-training programs for certified inspectors and plan reviewers in those fields. The recommendations include allowing applicants denied certification the opportunity for board review of their application packets and providing for tri-county-wide approved in-training programs, the approval of instructors and field evaluators, and the enrollment of students through the Tri-County Building Industry Service Board. A planning panel has been assigned the task of working with staff on an implementation proposal for the recommendations. The group is scheduled to report back to the board in December.

### On the horizon

Beginning January 1, 2001, the board will turn its attention to studying how it can better facilitate the consistent application of code in the tri-county region. It will also examine ways to resolve disputes between contractors or developers and local building officials that have to do with site-specific application of one or more provisions of the state building code.

For more information, interested persons should check the Tri-County Building Industry Service Center’s Web site or call Joan Stevens-Schwenger, the Tri-County Service Center manager, (503) 872-6731, ext. 22. ■

---

# Chief plumbing inspector plumbing code interpretation



**Subject:** Definition of Furred Space

**Code sections:** Oregon Plumbing Specialty Code (OPSC) Section 510.7 and Oregon One- and Two-Family Dwelling Specialty Code (DSC) Section 3310.7

**Code edition:** 2000

**Date:** August 14, 2000

## *Question:*

What is the definition of the term “furred space” used in the 2000 Edition, Oregon State Plumbing Specialty Code, Section 510.7 and in the context of that definition, when and where will a water heater pan be required?

## *Answer:*

The model code provider, the International Association of Plumbing and Mechanical Officials, (IAPMO) interprets “furred space” to be either attic/ceiling assemblies, floor/ceiling assemblies, or floor/subfloor assemblies requiring protection from structural damage should a water heater leak occur.

This definition does not address many other aspects of the code requirements specific to the question asked. For example, water heaters are often located in a garage with a concrete floor, on a stand, in a basement with no floor drain, under a counter, or in a cabinet. Some other factors to be considered are that there are no code definitions or standards for water heater pans or the size or capacity of a water heater itself. It would not be reasonable or practical to apply this code provision to a small instantaneous water heater or a very large water heater containing thousands of gallons.

Therefore, the definition of furred space should be based on a determination of when or where damage is expected to result from a leaking water heater and in a manner that will afford uniform enforcement and consistent installation practices throughout the state of Oregon.

As used in Section 510.7 of the OPSC and the comparable Section 3310.7 of the DSC, the term “furred space” means the water heater is located on a wood-framed floor or ceiling in a concealed space, or in an area that is not accessed or observable on a regular basis by the building occupants. It is expected that a water heater in a cabinet or closet that leaks will be identified readily and repaired before substantive damage would result and should not be required to have a water heater pan installed under it. In fact, the installation of a water heater pan in these applications may avert a property owner from the knowledge of a leak for some period of time and create a potential for greater damage. A water heater on a wood-framed floor or ceiling in an attic or installed behind an access panel or in a recessed compartment that requires tools or removal of a panel for access, or in any location that is expected to be observed infrequently, is required to have a water-tight pan of corrosion-resistant materials installed beneath the water heater. ■

# Code Forum April 2000 Q&As



The following questions and answers were discussed at the Building Codes Division April 2000 Code Forum. This information is provided as technical advice to local and state jurisdictions in an effort to enhance code uniformity throughout the state. Anyone having additional information concerning these items that has not been considered here is invited to contact the appropriate division staff.

## Plumbing

### 1. What is approved venting for wet venting?

The applicable code section is 908.0. This section is quite specific as to what is acceptable and what is not.

### 2. Please explain what is acceptable for catch basins, sand interceptor inside buildings.

The applicable code sections are 301.0 and 1006.0. The product approval provisions of statute and rule also apply. Catch basins are specifically approved through interpretive rulings.

### 3. In the 1997 UPC, Section 815.0 states, "... if discharged into the drainage systems," referring to condensate drains for air conditioning units. Does this mean that if condensate drains are discharged elsewhere, they don't fall under UPC requirements?

Yes. Examples of non-plumbing condensate include a roof unit discharging on the roof or dwelling furnace condensate pumped to the footing drain. A vacuum condensate system in a grocery store would be an example of plumbing condensate.

### 4. Section 608.7 — Vacuum Relief Valves. Please explain what this valve is and its use.

A vacuum relief valve used to be required by the boiler code to protect heat exchanger vessels from collapsing due to negative pressure. The heat exchanger vessel could be filled with live steam and when allowed to cool without a means of relief would create a vacuum. Some of these vessels are designed for internal pressure and are not structurally stable to the effects of negative pressures.

### 5. Is the plumbing inspector now responsible for sizing rain water gutters and leaders?

No. Some of the model 1997 UPC pages do address these sizing provisions as plumbing requirements. We haven't adopted them in Oregon. Chapter 11 of the plumbing code is an Oregon amendment and all model code pages should be removed when inserting the Oregon amendments.

### 6. Please explain the deletions in Table 7-3.

The changes were made by the plumbing code change committee, to make the table easier to use and less confusing.

### 7. Rainwater drain discharge, both surface and subsurface, needs to discharge somewhere. Most often it is a street curb, splash blocks, French drains, dry wells, open ponds, or trenches. This is covered in Plumbing Specialty Code Sections 306.2 and



**714.2. How do inspectors know before doing an inspection if rainwater is going to the right, approved area?**

The code provisions for storm water drainage disposal are in Section 1101.2. This section addresses compliance with local ordinances, state rules, and regulations. Each section of the state has differing climatic and topography conditions that require various standards or requirements for storm water disposal. The Internet is a good source for this information.

**8. On manufactured dwellings, why are plastic p-trap covers being approved for use as electrical junction boxes under the dwelling? This is being approved at the factory.**

This is not a plumbing question. However, after talking with our manufactured dwelling staff, I have found that the factory-approved access panels are being used to cover cable connection devices that do not require electrical junction boxes under the HUD code.

**9. In the UPC, why is tracer tape not allowed to be used with plastic pipe?**

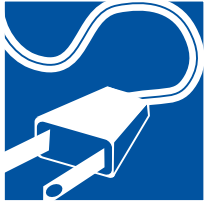
The code requirements for sewer tracer wire states that "... electrically conductive tracer wire (18-gauge, insulated copper or heavier, green in color, or other approved materials) is installed in the trench for locating the pipe in the future." Methods other than 18-gauge copper tracer wire may be approved for locating the pipe in the future. At this time, no other method approval has been requested.

**10. What licenses do plumbing and electrical contractors need to do both plumbing and electrical work on electric water heater installations?**

A licensed journeyman plumber employed by a licensed plumbing business may install or convert a water heater, including the electrical disconnects or connections, as long as the installer or the plumbing business for which the plumber works holds a current limited maintenance specialty contractor's (LMS) electrical license. Licensed workers who want to install or convert **only** water heaters must possess an LMS as well as the appropriate plumbing license.

Effective October 4, 1997, a landlord, landlord's agent, or the employee of the landlord or landlord's agent may replace an existing garbage disposal, dishwasher, or electric water heater with a similar single-phase appliance of 30 amps or less in residential properties without an electrical license issued by BCD. ***However, all applicable plumbing license provisions still apply.***

For conversion of a water heater from one fuel source to another (e.g., electric to gas) or replacement of an existing water heater in one- and two-family dwellings, a limited specialty water heater plumbing license or a journeyman plumber license may be used.



## Electrical

1. **Is working clearance required for air conditioner/heat pump disconnects? NEC 100-26.**

Yes. Air conditioner/heat pump disconnects require clear working spaces.

2. **If a dwelling has three exterior doors on a common exterior wall, are a single switch at one of the three doors and one suitably-located lighting outlet acceptable for the wall-switch-controlled lighting outlet for exterior doors? NEC 210-70(a)(2)**

Yes. The exception allows for central control of lighting for outdoor entrances. One lighting fixture may serve for three doors on the same side, provided there is at least one footcandle of illumination at each entrance.

3. **When a dwelling attic or crawlspace contains equipment requiring service, is a pull-chain-type light fixture located at the point of entry to these spaces acceptable in place of a wall-switch-controlled lighting outlet? Would an additional pull chain light fixture be required to be located at the equipment? NEC 210-70(a)(3)**

No. A pull-chain-type light fixture is not acceptable. This section has been revised to state that the lighting outlet may contain a switch. Article 100 defines a lighting outlet as an “outlet intended for the direct connection of a lampholder, a lighting fixture or a pendant cord terminating in a lampholder.” The switch has to be on the lighting outlet not the fixture or lampholder. The lighting outlet shall be near the equipment. The intent of having the switch at the entrance is to prevent one from crawling to the equipment in the dark.

4. **NEC 210-11(c)(3) exception allows, where a single 20-amp circuit supplies a single bathroom, outlets for other equipment within the same bathroom may be supplied from that circuit. Does “other equipment” include lights, exhaust fans, fastened-in-place wall/ceiling heaters, and hydromassage bath tubs when NEC 210-23(a) is complied with?**

Yes, provided the other equipment does not exceed 80 percent of the branch circuit rating for cord- and plug-connected equipment and 50 percent of the branch circuit rating for fixed equipment.

5. **NEC 364-8: Branches from Busways. Is there a maximum length of extra-hard-use cord that may be branched from a busway? If not, what length of extra-hard-use cord may or may not be considered as a substitute for the fixed wiring of the structure, NEC 400-8?**

The overall length of the extra-hard-usage cord used as a branch from a busway is not limited by NEC Article 364-8. The length limitations in 364-8 refer to the maximum 6-foot span between the busway plug-in device and a suitable tension take-up support device. The exception to this section allows an increase to 8-foot intervals of support in industrial establishments only.

6. **Regarding Article 547, Agricultural Buildings: An ag building will be built and used so as to be covered by the provisions of 547-1(a) and (b), the presence of dust, water, and/or corrosive atmosphere. The building will be finished inside and out with siding and wallboard. Article 547-4, Wiring Methods, does not permit the use of NM-B cable, but does contain the**



phrase, “or other cables or raceways suitable for the location.” Does finishing the inside walls of the building create a location inside the walls that would permit the installation of NM-B cable?

No. The finishing of inside walls with dry-wall or plywood does not provide a permanent and long-lasting barrier from the constant use of water.

**7. Is it approved to have a #6 copper to two ground rods on a 200-amp service?**

Yes, but only if a separate #6 copper is taken from the service equipment to each rod individually as a “sole connection” to that respective electrode.

**8. When doing a final inspection on a new residence, what can be missing or incomplete and still be appropriate for an inspector to approve the final: low voltage, trim, thermostats, plates, missing light fixtures, keyless light fixtures in lieu of back-ordered fixtures, missing plates, missing permanently connected appliances? If these are missing, is it appropriate to sign off on the final and have the owner/contractor sign and return the correction notice after the corrections are made, or should we go back to reinspect?**

It is not the responsibility of the inspector to make a preliminary final inspection and “checklist.”

Owners and contractors should be made aware of this and the final postponed (with few exceptions) until the project is complete. Any missing items allowed by the jurisdictional authority shall be properly safe-tied off or a suitable substitute temporarily installed, i.e., a special-order light fixture etc.

**9. Clarify acceptable methods of bonding metal risers from flush-mount meter bases, taking into consideration the Electrical Specialty Code interpretation of 250-23 for accessibility on page 16.**

The interpretation on page 16 of the 1996 Electrical Specialty Code dealt with the accessibility of the grounding electrode conductor attachment. There is a note following the interpretation, asking the inspector to use good judgment on the rare occasion that the grounding needed to be accomplished in say, a remote meter base according to Article 250-23(a) (now Article 250-24(a)(2)). Up until the 1990 specialty code and interpretations, Oregon required the electrode conductor to terminate at the neutral bar of the service equipment, which was consistent with Article 250-53, as the only place where the equipment grounding conductors, the service equipment enclosures, and, where the system is grounded, the grounded service conductor are all at a common point. This code reference is now in Article 250-24(c). The main bonding jumper is required to be located in the service equipment enclosure(s) by Article 250-28 of the 1999 Code.

Bonding of the riser conduits entering a surface-mounted enclosure is usually achieved through threads in a factory hub provided for the purpose and attached to the enclosure with multiple flanged and tapped holes and screws.

Bonding of riser conduits entering a flush-mounted meter base must comply with Article 250-94 of the 1999 code. Flush-mounted meter bases do not generally provide for attachment of riser conduits by hubs. Also, NEMA-config-



ured flush meters do not generally provide an extra terminal for the attachment of a conduit bonding jumper as they did in the past. A jumper is sometimes allowed to run through the service nipple from the service equipment grounded circuit conductor bar. Attachment to the riser is then made to an approved bonding-type bushing at its termination in the meter base.

**10. A service is installed outside according to Article 230-70, but not at the nearest point of entry (meter main). The feeders are installed in an approved raceway along the outside of the structure and enter the structure (point of entry).**

- a. What is the maximum distance conductors can be run?*
- b. Will a disconnecting means be required at this location, as referred to in Article 240-21(4) Outside Conductors (d)?*

**Answer a:**

Service entrance conductors are restricted to “inside or outside nearest the point of entry.” Feeders to a sub-panel are not limited.

**Answer b:**

These conductors do not fall under the definition of a tap; therefore, the requirements of Article 240-21 do not apply. They are feeders and shall be protected at their appropriate ampacity by the overcurrent protective device that is a part of the meter main.

**11. On new construction, OAR 918-305-0160(4) requires that a concrete-encased grounding electrode system be installed. What happens when the system is left out or destroyed by the general or subcontractor?**

A ground ring meeting the requirements of Article 250-50(d) may be installed in lieu of the required concrete-encased electrode only in the event the attachment point to the concrete-encased electrode has been rendered inaccessible without sacrificing the integrity of the concrete.

**12. What is the fire rating for an electrical panel installed in a one-hour fire wall? What is the proper installation procedure for a distribution panel?**

The electrical panel is not rated with a fire rating as device boxes are, due to the wide variation of openings and method of entry into the enclosure.

The structural code restricts how many square inches are allowed for openings into a fire wall, and normal practice requires the electrical panel to be boxed in to maintain integrity of the fire wall in a two-hour wall. The panel is already backed up to the wallboard or plasterboard or other wall structure on the inside when it is used in a one-hour wall.

**13. What is the maximum allowable distance between the concrete-encased electrode stub-up and the service entrance panel?**

This is a judgment call by inspectors who decide what reasonably meets the intent of the requirement “near” in the specialty code.



**14. If a dwelling is energized by a generator or solar panels, not by utility power, does it have to comply with NEC 230-42?**

No. The arrangement of the system will determine how feeder conductors are to be sized. A residential backup system doesn't generally fall under the definition of a "separately derived system," and would therefore not be required to meet the minimum size for a service, as stated in Article 230-42 or 230-79 for service entrance conductors and disconnects.

**15. Article 551 requires a 12-volt GFCI-protected convenience receptacle. "RV site" is defined by Article 551 as being a park, and an RV park is defined as two sites or more. Is there a requirement for individual installation on private property, for one RV site, to have 125-volt convenience outlet?**

No, the dwelling unit is already required to have a minimum of two outside receptacles for convenience use, according to Article 210-52(e). GFCI protection for these receptacles is required by Article 210-8(a)(3).

**16. If a sub-panel is fed from a service using a metal raceway, and the raceway is being used as an equipment ground, the raceway is going through concentrics on both sides, and no bonding jumpers are installed. How are we to know in the field if the panel is listed for this purpose?**

The labeling and listing may indicate whether the knockouts are suitable for ground continuity. Again this is a judgment call by the inspector as to whether there is sufficient metal left to meet the intent of the code in Article 250-2.

Remember that the requirement for bonding around concentric or eccentric knockouts is dealing with services in Article 250-94, not sub-panels, and bonding over 250 volts to ground in 250-97.

**17. What is a "natural gray" conductor, and why is it not defined in the NEC?**

Natural gray as originally used in the NEC is no longer a common occurrence, although still mentioned in NEC Article 200. The use of a "pigmented" gray is not the same as a "natural" gray and, in fact, may introduce a safety hazard when allowed.

Future code cycles will likely introduce a standard tonal or shade value for a pigmented gray conductor when it's used as a grounded conductor. By allowing a specific color range, many hazards will be eliminated.

**18. Hydromassage bath tubs installed inside apartments and one- and two-family dwellings have a recirculating pumping system. Are they true hydromassage tubs? If so, are they subject to all the requirements of Article 680?**

A dwelling unit "jetted" tub may meet the definition of a hydromassage tub found in Article 680-4. When installed according to the listing and labeling as required by Article 110-3, it meets the requirements of both Article 210 for a dwelling and Part G of Article 680. The requirements are basically the same.

**19. Garages: Distinction between commercial and residential. Is residential subject to the Class I, Division 2 classification? If so, how should final electrical inspections be handled when appliances such as freezers, washers and dryers, etc. are already installed in the 18-inch zone?**

*Please see "Code Forum," Page 11*

A residential garage would be subjected only to routine maintenance of vehicles and would not be classified as a Class I, Division 2 area. Section 304.2 of the Mechanical Specialty Code requires heating and cooling equipment and water heaters that generate a glow, spark, or flame capable of igniting flammable vapors to be at least 18 inches above a garage floor.

**20. Will the next code change see Oregon's adoption closer to the beginning of the code cycle?**

It is the intent of Building Codes Division to enforce the One and Two Family Dwelling Code, Electrical Code, and Plumbing Code on the same date.

**21. What is the enforcement for absence of concrete-encased electrodes? What are various jurisdictions requiring?**

See response to question 11.

**22. Are lighting outlets required for remote sign equipment located in attic or soffit spaces for retail stores (neon transformers, etc.)? Ref. NEC 210-70(c).**

Yes. Neon transformers and remote ballasts are within the scope of the definition of "equipment." Neon transformers and remote ballasts located above hard ceilings shall meet the requirements of 210-70 (c). Equipment located above a suspended ceiling with removable panels shall not require a lighting outlet.

**23. NEC Article 400-8 specifically prohibits the use of cords and cables as a substitute for fixed wiring on a structure. Is it permissible to use type "w" cable as the wiring system for docks in a marina?**

Yes. See UL Electrical Construction Equipment Directory.

**24. What licenses do plumbing and electrical contractors need to do both plumbing and electrical work on the installation of an electric water heater?**

A licensed journeyman plumber, employed by a licensed plumbing business, may install or convert a water heater, including the electrical disconnects or connections, as long as the installer or the plumbing business for which he works holds a current limited maintenance specialty contractor's license (LMS).

Licensed workers who want to **only** install or convert water heaters must possess a limited maintenance specialty contractor's license (LMS) as well as the appropriate plumbing license.

Effective October 4, 1997, a landlord, landlord's agent, or the employee of the landlord or landlord's agent may replace an existing garbage disposal, dishwasher, or electric water heater with a similar single-phase appliance of 30 amps or less in residential properties without an electrical license issued by BCD. ***However, all applicable plumbing license provisions still apply.***

For conversion of a water heater from one fuel source to another (e.g., electric to gas) or replacement of an existing water heater in one- and two-family dwellings, a limited specialty water heater plumbing license or a journeyman plumber license may be used.



## Structural/Mechanical/One- and Two-Family Dwelling

### 1. Is a landing required at exterior stairs for a dwelling?

Section 312.1.2 now addresses this issue and requires a landing at the top and bottom of stairs. An exception may be the stairway from a deck to the lawn, as long as the surface was level and firm, a formal landing would not be required.

### 2. Are generators for residential use required to be listed equipment?

The dwelling code does not specifically address the installation of generators. Because the dwelling code does not address them, the mechanical and electrical codes may be used to help regulate their installation. NFPA 37 can also be used as a guideline, along with manufacturer's installation specifications. All permanently installed generators should be listed appliances. The fire code should also be consulted for the requirements on storage of fuel.

*Note: Since this meeting, it has been brought to our attention that several top manufacturers of generators are now having them tested and listed.*

### 3. What is the required distance between interior brace panels and the exterior walls?

Dwelling Code Section 602.10.2.1 specifically addresses interior-braced wall panels for installation in Seismic Zones 3 and 4. Different issues related to braced wall panels and alternate panels for exterior and interior braced wall lines are addressed in a technical advisory posted on the BCD Web page and distributed to local building officials. According to this advisory, an interior braced wall line

must have the required bracing in the portions without openings. Openings must be limited to within eight feet from the exterior braced wall line.

### 4. Can combustion air for a factory-built or masonry fireplace be taken from the attic or crawlspace?

Dwelling Code Section 1006.2 prohibits taking combustion air from the attic, crawlspace, garage, or basement. OSSC Section 3102.7.16 does allow the air to be taken from the exterior, the crawlspace, attic, or other approved vented space, as long as the opening is installed in a manner that prevents burning material from dropping into concealed combustible spaces. The manufacturer's installation specifications may limit this and should be followed if more restrictive.

### 5. Can a gas clothes dryer be installed in a bathroom?

Yes. Dwelling Code Section 2001.1 states, in part: "The methods of providing combustion air in this chapter **do not apply** to direct vent appliances, listed and labeled cooking appliances, refrigerators, and **domestic clothes dryers.**" However, their effect on the combustion air requirements for other appliances should be considered according to Section 2001.2, which states in part: "Air requirements for the operation of exhaust fans, kitchen ventilation systems, **clothes dryers**, and fireplaces **shall be considered** in determining the adequacy of a space to provide combustion air." (emphasis added)



**6. How is gas pipe bonded and grounded?**

Dwelling Code Section 2608.9 requires gas piping to be bonded and grounded in accordance with the electrical provisions of the code. Section 4109.7, Bonding Other Metal Piping, requires "...interior metal piping that may become energized to be bonded to the service equipment enclosure, the grounded conductor at the service, the grounding electrode conductor where of sufficient size, or to the one or more grounding electrodes used." The bonding jumper is sized according to Table 4408.12. "A piping system shall be considered as bonded where connected to the equipment grounding conductor for the circuit capable of energizing such piping."

**7. Can a grounding rod in a foundation be in contact with both soil and rebar in the foundation when tied together with copper?**

This is an acceptable installation. The copper does not rust and leaching of water up to the foundation rebar has not been identified as a problem.

**8. Are parking garage stair and elevator shafts required to be rated shafts?**

OSSC Section 311.9.10 exempts vertical openings in open parking garages from being enclosed except as required by Section 311.9.7. This section requires stairs and elevators for use by other than parking attendants to comply with Chapter 10 exit enclosure requirements. However, in mechanical parking garages or garages where only employees are allowed to enter, stairs are not required to be enclosed, and lifts may be non-rated, provided they are enclosed with non-combustible material.

**9. What are the lighting requirements for an area of rescue?**

Neither OSSC Chapter 11 nor the *Americans With Disabilities Act Guidelines* specifically addresses this issue. It's obvious that those areas of rescue located within an exit way must comply with the requirements for egress illumination of OSSC Section 1003.2.9. Section 1003.2.9.2 Power supply only requires emergency power for Group I, Divisions 1.1 and 1.2 and for all other occupancies where the exit system is serving 100 or more occupants. However, not so obvious is what to do with areas of rescue assistance that are in a separate room adjacent to a stair enclosure or exit way. The code does not specifically address this issue. It appears a code change is needed for both of these cases because it is necessary for a disabled person to be able to see to enter the room, read the instructions, and locate the communication equipment. Based on this, it is appropriate to recommend this area be lighted with emergency lighting. This could be part of the building system if the exit system requires emergency lighting, or it could be an individual battery back-up emergency light to serve this area.

**10. Who does plan reviews for a fire sprinkler system and who inspects them?**

A fire and life safety (FLS) plans examiner may perform the plan review, and either a FLS plans examiner or an A-level structural inspector may inspect a fire sprinkler system. ■

---

# Staff advisory issued

The Policy and Technical Services Section has issued the following advisory interpretation:

**Program:** Structural

**Subject:** Reroofing of buildings regulated under the Oregon Structural Specialty Code

**Source:** 1985, 1988 and 1998 editions of the Oregon Structural Specialty Code (OSSC)

**Reference:** Appendix Chapter 15, Sections 1515 and 1516, 1998 OSSC; Appendix Chapter 32, Sections 3209 and 3210, 1985 and 1988 OSSC.

**Date of issue:** September 13, 2000

**Prepared by:** Ravindra K. Mahajan, P.E.  
Facilities engineer  
(503) 373-1354

## *Question:*

What are the State Building Code requirements for reroofing of buildings that are regulated by the Oregon Structural Specialty Code?

## *Determination:*

For reroofing structures regulated by the OSSC, the following apply:

1. A building permit is required for every reroofing job.
2. A pre-roofing inspection (to be conducted by the building official) of the roof and its structure is required. Special inspection can be substituted as an alternate to pre-roofing inspections.
3. A final inspection by the building official is required upon completion of reroofing of the structure.
4. Reroofing normally must be done by stripping off the existing roof. The building official can approve reroofing over an

existing roof if the existing roof structure has adequate capacity to carry additional loads imposed by proposed reroofing, the total number of roofing layers does not exceed the number specified in Section 1516 of the 1998 OSSC, and the existing roof meets the requirements stipulated in Section 1515.1 of the 1998 OSSC.

## *Analysis:*

The Building Codes Division has received numerous calls from roofing contractors and others about the state building code requirements for reroofing of structures. In some cases, the callers are surprised to hear about the requirement of a pre-roofing inspection. Roofing contractors and others are confused, especially since the reroofing requirements in the dwelling code are different from the OSSC.

The reroofing requirements have remained similar for some time as is evidenced by a comparison of Sections 3209 and 3210 of the 1985 and 1988 OSSC, and Sections 1515 and 1516 of the 1998 OSSC. Appendix Chapter 15, Section 1515 of the 1998 OSSC requires a written approval (building permit) from the building official before any reroofing of a structure regulated by the OSSC can be undertaken. It also delegates the authority to the building official to allow reroofing over an existing roof if the building official can satisfactorily determine in the pre-roofing inspection that the existing roof complies with the requirements of Section 1515.1. The difference between the dwelling code and the OSSC is that the dwelling code does not require a building permit for reroofing jobs, whereas the OSSC does. Furthermore, the OSSC requires a mandatory pre-inspection of existing roofs for every reroofing job.

The pre-roofing inspection by the building official, required under Section 1515.2.1 of

*Please see "Staff advisory," Page 24*

---

# Updated non-residential energy code compliance manual available



The Office of Energy has announced that the new, updated Non-Residential Energy Code compliance manual (forms and instructions) are available on line at <http://www.energy.state.or.us/code/cdpub.htm>.

The forms are available in Adobe Acrobat format and can be downloaded free of charge from <http://www.adobe.com/products/acrobat/readermain.html>.

Lighting Forms 5a-5c and Worksheets 5a-5c are also available at OOE's Web site as a Microsoft Excel 97 spreadsheet.

Stay notified of latest energy code issues by registering your e-mail at <http://www.energy.state.or.us/code/codeform.htm>. E-mail questions to [energy.in.internet@state.or.us](mailto:energy.in.internet@state.or.us), or call (503) 378-4040 or (800) 221-8035 (Oregon only). ■

---

## Board reappointments



### Manufactured Structures & Parks Advisory Board

- Michael Erb (manufactured home sales position)
- Al Laver (consumer organization position)
- Jeff Payne (mobile home/manufactured dwelling park position)
- Bob Schriever (RV sales position)

### Electrical and Elevator Board

- Walt Conner (journeyman electrician position)
- Frank Regalado (journeyman elevator installer position)

*All terms end June 30, 2004.* ■

# Compliance Report

The Building Codes Division is responsible for the enforcement of Manufactured Dwellings and Structures, Plumbing, Structural/Mechanical, Electrical and Boiler/Pressure Vessel Specialty Codes to protect the health and safety of the people of Oregon.

## The Electrical and Elevator Board found the following violations of the Oregon Electrical Safety Law in September 2000:

CITY .....	NAME .....	VIOLATION .....	CIVIL PENALTY ASSESSED
Albany .....	M.J.S., Inc. .... dba Mike's Heating & Air Conditioning Service	No electrical permit .....	\$250
Bend .....	Jerry L. Cunningham .....	No electrical contractor's license, no supervising or journeyman's license, no electrical permit .....	\$250
Bend .....	Steve Sims .....	No supervising or journeyman's license .....	\$500
Bend .....	Frank W. Wagner .....	No supervising, journeyman's, or limited residential license .....	\$500
Canby .....	Canby Excavating, Inc. ....	No electrical contractor's license .....	\$500
Clackamas .....	Prosign, Inc. ....	No electrical permit (4 violations) .....	\$1,000
Creswell .....	Ideal Electrical Systems, Inc. ....	No electrical contractor's license .....	\$500
Creswell .....	James D. Williamson .....	No supervising license .....	\$500
Gold Beach .....	Stephen C. Donnelly .....	No electrical permit, failure to make corrections .....	\$750
Grants Pass .....	Ernest A. Guerrero .....	Failure to make corrections .....	\$250
Keno .....	Anthony K. Borello .....	No electrical license (2 violations) .....	\$1,000
Klamath Falls .....	Michael Kent Williams .....	No supervising or journeyman's license (2 violations) .....	\$1,000
Lakeside .....	Robert Atkin .....	No electrical permit .....	\$250
La Pine .....	Universal Electric, Inc. ....	No electrical permit .....	\$0
Medford .....	Tim S. Firman .....	No supervising or journeyman's license, no electrical permit .....	\$750
Medford .....	Mainline Electric, Inc. ....	No electrical permit .....	\$250
Milwaukie .....	James A. Gear .....	No electrical contractor's license, no supervising or journeyman's license .....	\$500

CITY	NAME	VIOLATION	CIVIL PENALTY ASSESSED
Mt. Angel	Anthony V. Morris dba J.M.J Custom Building & Remodeling	No electrical contractor's license, no electrical permit	\$750
Newberg	Four Seasons Heating and Air Conditioning, Inc.	No electrical permit	\$250
Newport	R.K. & L.K., Inc. dba Northern Electric Motor Service	No electrical contractor's license, no electrical permit and unsafe installation	\$1,250
Portland	Adams Electric Company	No electrical permit	\$250
Portland	Apollo Pools, Inc.	No electrical contractor's license, no electrical permit and unsafe installation	\$1,250
Portland	Brink's Home Security, Inc.	Failure to make corrections or call for inspection	\$1,000
Portland	Michael Parks	No electrical supervising, journeyman's or limited residential license	\$500
Portland	Platinum Inc. dba Platinum Records	No electrical contractor's license, no electrical permit	\$750
Portland	Ermund R. Zochert dba Ermund R Zochert Furnace Repair and Cleaning, aka Zochert Furnace Cleaning and Repair, aka Zochert Furnace Repair and Power Vac	No electrical contractor's license, no electrical permit	\$750
Redmond	Jenia McEwen dba Action West Construction	No electrical contractor's license, no supervising or journeyman's license, no electrical permit	\$1,250
Roseburg	Joseph B. Gerbel dba Valley Mechanical	No electrical contractor's license, no electrical permit	\$750
Roseburg	Ken's Heating & Cooling, Inc.	No electrical contractor's license, no electrical permit (2 violations)	\$1,250
Silverton	John A. Smith dba Steelhead Electric	No electrical permit	\$250
Springfield	Raymond Mapes dba Atlantis	No electrical permit, no supervising, journeyman's, or limited residential license	\$1,000
West Linn	Donovan W. Walmer dba ABC Carpentry	No electrical contractor's license, no electrical permit, no electrical supervising, journeyman's or limited residential license	\$1,250
White City	Dana F. Hadley dba Hadley Electric	No electrical supervising license, no electrical permit	\$750

CITY	NAME	VIOLATION	CIVIL PENALTY ASSESSED
Woodburn	Laurenti Larion Basargin dba Spa Guys	No electrical contractor's license, no electrical permit	\$750
Tempe, AZ	Mel Gorley	No supervising or journeyman's license	\$500
Citrus Heights, CA	Control Solutions, Inc.	No electrical contractor's license, no electrical permit	\$750
Long Beach, CA	William Francis Reynolds	No supervising or journeyman's license	\$500
San Juan Capistrano, CA	Four-A Electric, Inc.	No electrical contractor's license, no electrical permit	\$750
Carbondale, CO	R & A Enterprises of Western Colorado	No electrical license, no electrical permit, making an unsafe electrical installation	\$500
Boise, ID	Tri-State Electric, Inc.	No electrical contractor's license	\$250
Battle Ground, WA	Kyle N. Uskowski	No supervising, journeyman's, or limited residential license	\$500
Brush Prairie, WA	Michael D. Webb	No supervising, journeyman's, or limited residential license	\$500
Kennewick, WA	Curtis L. Giles dba Circle G Construction of Oregon	No electrical contractor's license (5 violations)	\$2,500
Longview, WA	G.G. Weaver Corporation	Allowed unlicensed individual to make electrical installations (2 violations)	\$1,000
Vancouver, WA	Advanced Electric, Inc.	No electrical supervising, journeyman's, or limited residential license (2 violations)	\$1,000
Vancouver, WA	Anatoliy Bogoslavets dba Accord Electric	No electrical permit	\$250
Vancouver, WA	Signature Security Inc.	No electrical permit	\$250
Vancouver, WA	Utility Contractors Inc.	No electrical permit, no electrical contractor's license	\$500

## The Plumbing Board found the following violations of the Oregon Plumbing Specialty Code in August 2000:

Bend	Jerry L. Cunningham dba Water Evaluation & Treatment	No plumbing business license, no journeyman's license, no plumbing permit	\$1,500
Canby	Tony Fay Lewis dba T. Lewis Construction	No plumbing business license	\$500
Clackamas	Joseph J. Amadio dba JJA Plumbing	No plumbing business license, no plumbing permit	\$1,000
Clackamas	Willamette Plumbing, Inc.	No plumbing permit	\$500
Eugene	Ronald J. Kolendar dba Cut Above	No plumbing business license	\$500

CITY	NAME	VIOLATION	CIVIL PENALTY ASSESSED
Gresham	Lester Stoker	No journeyman's license	\$500
Hillsboro	Strauss Excavating, Inc.	No plumbing business license	\$500
Klamath Falls	Hukill's Ready Rooter & Repair, Inc.	Allowed an unlicensed individual to make a plumbing installation	\$500
Klamath Falls	Allen Merck dba Merck Construction	No plumbing business license	\$500
Klamath Falls	Douglas John Wayne dba Innovative Builders & Remodeling	No journeyman's license	\$500
Molalla	Raymond Harris	No journeyman's license	\$500
North Bend	Gary M. Polacek dba Gary Polacek Construction	No plumbing business license, no journeyman's license	\$1,000
Oregon City	John G. Huessy dba Versatile Construction	No plumbing business license, no plumbing permit	\$1,000
Portland	Comfort Mechanical, Inc.	Allowing unlicensed individuals to make plumbing installations (2 violations)	\$1,000
Portland	Glen A. Putnam aka Tuck Putnam, dba A-AAA carpentry	No plumbing business license, no journeyman's license	\$1,000
Prineville	2RB Construction Inc. dba Valu Fencing & Decking	No plumbing business license (2 violations)	\$1,000
Prineville	Bob Brown	No journeyman's license	\$500
Prineville	Russell Brown	No journeyman's license (2 violations)	\$1,000
Prineville	Miguel Mendoza dba Miguel Mendoza Contracting	No plumbing business license, no journeyman's license (2 violations of each)	\$2,000
Prineville	Troy Wayne Slaughter & Fred Martin Burnett dba B & S Contractors	No plumbing business license (2 violations)	\$1,000
Roseburg	T & D Enterprise of Roseburg, Inc. aka T & D Enterprise	No plumbing business license	\$500
Roseburg	Bruce Connell dba Bruce Connell Construction	No journeyman's license	\$500
Roseburg	Terry Lease	No journeyman's license	\$500
Salem	Salem Irrigation and Repair Service, Inc.	No plumbing business license (5 violations)	\$500
Scappoose	William L. Feris dba Bare Renovations	No plumbing business license, no journeyman's license	\$1,000

CITY	NAME	VIOLATION	CIVIL PENALTY ASSESSED
Tualatin	Christian Plumbing, Inc.	No plumbing permit	\$500
Redding, CA	Robert William Verges	No plumbing business license, no journeyman's license	\$1,000
Battle Ground, WA	Tapani Plumbing, Inc.	Allowed unlicensed individual to make plumbing installation	\$500

**The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in September 2000:**

Brookings	Michael F. Gervase dba Gervase & Son Construction	No building permit	\$250
Gresham	Wolcott Plumbing Contractors, Inc.	No plumbing permit	\$250
Mt. Angel	Anthony V. Morris dba J.M.J Custom Building & Remodeling	No building permit	\$250
Portland	Daniel Lee Gardner dba Daniel Gardner Mobile Home Maintenance	No plumbing permit	\$250
The Dalles	David J. Mall dba Mountain Air Heating & Cooling	No mechanical permit	\$250
Wilsonville	Tualatin Electric, Inc.	No building permit	\$250
Anaheim, CA	Allied Modular Building Systems, Inc.	No insignia of compliance	\$250

**The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in October 2000:**

Bandon	Scott Christoferson	Failure to obtain required inspection	\$250
Canby	Roth-Zachry Heating, Inc. dba Roth Heating & Air Conditioning	No plumbing permit	\$250
Hillsboro	Aire-Flo Heating and Air Conditioning, Inc.	No mechanical permit	\$250
Hillsboro	Bob Carlson, Inc.	No building permit	\$250
Portland	Rivas and Rivas, Ltd. dba Cascade Roofing Co.	No building permit	\$250
Redmond	William Anthony Rodriguez dba Rodriguez Construction	No plumbing permit	\$250
West Linn	Robert Klein dba Wy East Tile	No plumbing permit	\$250
West Linn	Donovan W. Walmer dba ABC Carpentry	No building permit	\$250

## The Board of Boiler Rules found the following violations of the Oregon Specialty Codes in September 2000:

CITY	NAME	VIOLATION	CIVIL PENALTY ASSESSED
Albany	Casey Industrial, Inc.	No boiler/pressure vessel business license, no installation permit (4 violations)	\$2,000
Albany	M.J.S., Inc. dba Mike's Heating & Air Conditioning Service	No installation/alteration/repair permit, no boiler/pressure vessel business license	\$1,000
Bend	Brian Denison	No certification	\$500
Bend	Cascade Heating and Specialties, Inc.	Employed uncertified individual to make boiler repairs	\$500
Bend	Severson Plumbing & Mechanical, Inc.	No boiler/pressure vessel business license, no installation permit	\$1,000
Central Point	John Davis, Inc. dba North West Mechanical	No installation permit (3 violations)	\$1,500
Eugene	Brian Robinson dba Robinson Plumbing	No installation permit (3 violations)	\$1,500
Pendleton	Gordon's Electric & Heating, Inc.	No boiler/pressure vessel business license, no repair permit (2 violations)	\$1,500
Portland	Chong An Kim dba Best Equipment Co.	No installation permit	\$500
Portland	Fullman Service Co., LLC dba Fullman Service Co.	No installation permit	\$500
Portland	Heinz Mechanical, Inc.	No installation permit	\$500
Prineville	Stephen's Heating & Cooling, Inc.	No installation permit	\$500
The Dalles	Todd Bradford	No certification	\$500
The Dalles	Edward B. Devlaeminck dba Devco Mechanical	No boiler/pressure vessel business license, no installation permit, no certification	\$1,500
El Monte, CA	Clayton Industries	No boiler/pressure vessel business license, no repair permit	\$1,000
Hartford, CT	Hartford Steam Boiler Inspection and Insurance Co.	Failure to notify Division of insurance	\$500
Battle Ground, WA	JRT Mechanical, Inc.	No plumbing business certificate of registration	\$1,000
Mukilteo, WA	Cascade Boiler Service Inc.	No installation permit	\$500
Stanwood, WA	David Mihalik	No certification	\$500

## The Director of the Department of Consumer and Business Services found the following violations of regulation of manufactured dwellings in September 2000:

CITY .....	NAME .....	VIOLATION .....	CIVIL PENALTY ASSESSED
Bend .....	Mark J. Wirges .....	No certification tag report .....	\$250
	dba Mark J. Wirges Construction		
Coos Bay .....	Steve Applebaum .....	No manufactured dwelling installation permit .....	\$250
Portland .....	Daniel Lee Gardner .....	No manufactured dwelling installer's license .....	\$500
	dba Daniel Gardner Mobile Home Maintenance		

---

## Interpretive ruling signed



The following ruling was approved by the division administrator and mailed to building officials. It can also be found on our Web site, [www.oregonbcd.org](http://www.oregonbcd.org).

**00-16** Plumbing product approval — RIDGID Viega ProPress Copper Joining System ■

---

## Stakeholder meeting scheduled for Jefferson and Crook counties



■ Tuesday, November 28, 2000, 6 p.m.  
Fairgrounds 4-H (DARRAR) Building  
430 SW Fairgrounds Road  
Madras OR, 97741

# Board meeting dates

Sun	Mon
1	2
8	9

## Electrical & Elevator Board

Meets at 9:30 a.m. on the fourth Thursday of each month:

- November 16 (canceled)
- December 21

## Building Codes Structures Board

Meets at 9:00 a.m. on the first Wednesday of each month:

- December 6
- January 3

## Manufactured Structures & Parks Advisory Board

Meets at 9:30 a.m. on the second Thursday of each quarter:

- December 14 (special meeting)
- January 11

MEETINGS ARE HELD IN THE SALEM BCD CONFERENCE ROOM AT 1535 EDGEWATER ST. NW EXCEPT THE TRI-COUNTY BOARD

## State Plumbing Board

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

- December 15

## Board of Boiler Rules

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

- December 5

MEETINGS ARE HELD IN THE SALEM BCD CONFERENCE ROOM AT 1535 EDGEWATER ST. NW.

## Tri-County Building Industry Service Board

Meets at 9:30 a.m. on the second Wednesday of each month:

- November 8
- December 13

THE TRI-COUNTY BOARD MEETS AT 123 NE 3<sup>RD</sup> AVE. PORTLAND.



## Subscription and address corrections

- Address correction — Send to:  
BUILDING CODES DIVISION  
PO BOX 14470  
SALEM, OR 97309-0404

- New subscription — Enclosed is my check payable to DCBS for \$25 for the calendar year 2001 (Jan.-Dec.) subscription.

Send to:

DEPARTMENT OF CONSUMER  
& BUSINESS SERVICES  
FISCAL SECTION  
350 WINTER ST. NE  
SALEM, OR 97301-3878

Name: \_\_\_\_\_

Title/Company: \_\_\_\_\_

Address: \_\_\_\_\_

City/State/ZIP: \_\_\_\_\_

Phone: (\_\_\_\_\_) \_\_\_\_\_

**DEPARTMENT USE ONLY 1087/70050**

## Staff advisory, *continued*

the 1998 OSSC, can be substituted by a special inspection. Based on Sections 1701.2 and 1701.3 of the 1998 OSSC (requirements for approval of the special inspectors and duties and/or responsibilities of special inspectors) and layout of the existing roof configuration, the building official may approve the roof installer as the special inspector or may require that someone else perform the special inspection. The decision to accept a special inspection report in lieu of the pre-roofing inspection requirement and the decision to approve an individual as a special inspector rests with the building official. ■

440-2666 (11/00/COM)



### **Building Codes Division**

1535 Edgewater St. NW  
PO Box 14470  
Salem, OR 97309-0404

Address Correction Requested

# CODE LINK

STATE OF OREGON • BUILDING CODES DIVISION

*CodeLink* is the bimonthly publication of the Oregon Department of Consumer & Business Services Building Codes Division.

### **Editor**

Louann Rahmig

### **Design & Layout**

DCBS Communications

### **BCD Administrator**

Joseph A. Brewer III



In compliance with the *Americans with Disabilities Act (ADA)*, this publication is available in alternative formats. Call the editor, (503) 373-7438.

Information in *CodeLink* may be republished without permission.

Visit our Internet Web site at  
<http://www.oregonbcd.org>

PRSR STD  
U.S. Postage  
PAID  
Salem, OR  
Permit No. 24