

# CODEBOOK

STATE OF OREGON • BUILDING CODES DIVISION

NOVEMBER/DECEMBER 1998

## From the administrator's desk

At a recent OBOA board meeting, I learned there is the perception among some building officials that BCD is in "competition" with local jurisdictions for some types of work. Most recently this perception may have been reinforced by a widely circulated letter from a building official indicating that some members of BCD's staff were soliciting the jurisdiction being reviewed to send plan review work to BCD. I investigated these allegations and communicated my findings to the jurisdiction in question. I plan to meet with that jurisdiction to address this and other issues raised during the jurisdiction's program review.

BCD is enabled by statute to perform master plan review services for structures being built in one or more locations anywhere in the state. This type of work has been limited to KOA campground cabins, some park rest rooms and care facilities for the Division of State Parks and Adult and Family Services, and prisons for the Department of Corrections. In each case we were approached by the customer. At no time have we solicited work under statute. I've wondered why other organizations such as Les Schwab and Fred Meyer have not availed themselves of this service, but BCD has not, and will not, market these services. If BCD employees are actively marketing these services, appropriate corrective action will be taken.

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# CPSC recalls electric baseboard heater thermostats



In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Honeywell Inc. is revising the rating of 26,000 electric baseboard heater thermostats and recalling about 2,600 of the devices in the United States. The thermostats are used only on electric baseboard heaters. They were rated at a higher wattage than they are able to handle. If too much power runs through the thermostats, they can overheat, presenting a fire hazard.

Honeywell found 10 instances of thermostats overheating when connected to baseboard heaters using more than 3,000 watts. In two instances, the unit ignited, resulting in fire damage to the thermostat casing and smoke damage to the surrounding wall.

The thermostat carries the Honeywell brand name with model T4600 or CT1650. The thermostat also was sold under the King Chronolux brand name with model K4600S. The brand name is stamped on the front of the unit, and the model number is located underneath the unit's snap-off front cover. The thermostats were sold between January 1996 and June 1998.

Consumers should stop using these thermostats and call Honeywell toll-free at (877) 575-4533 to determine if their thermostats are involved in this recall. ■

From *The Gated Wye*

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## Trap loading for self-service laundries explained



Just when you think you've heard every possible question on plumbing codes, a new one comes along. The question: In the Oregon State Plumbing Specialty Code at the end of Section 702.0, following a table that lists the maximum trap loading, you'll find: "Exception: On self-service laundries." What does this exception mean?

Nothing in the plumbing code references the exception or explains its application. However, there is a simple explanation.

Section 702.0 is "Fixture Unit Equivalents", which defines unit equivalents to fixtures listed in Table 7-3 of the code. This fixture unit equivalent is based on the size of trap required. The size of trap required determines the gallons per minute (GPM) that may be safely drained through the fixture connection by gravity. This is extremely important when making drainage connections from a pumped discharge such as a clothes washer. If the connection to the trap is not large enough, the standpipe will overflow. Table 7-3, which addresses fixture trap and

drain sizing, contains a footnote that reads: "Clothes washers in groups of three (3) or more shall be rated at six (6) units each for the purpose of common horizontal and vertical waste-pipe sizing."

This is what the exception is all about. If you have a self-service laundry that is draining three or more clothes washers into one standpipe, the exception allows you to waive the six-fixture unit for the common vertical waste riser and trap. This applies even if four washers are served by the same trap. However, the trap loading is still limited to the two-fixture unit value for each clothes washer connected. So, a three-inch trap with a trap loading of six-fixture units per the table in Section 702.0 may serve no more than three clothes washers. Therefore, a four-inch trap is limited to no more than four clothes washers. Without the exception, these traps would be overlooked by sizing according to the table.

For further information, call Terry Swisher, (503) 373-7488. ■

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# BCD tracks illegal drug-lab properties



In 1989, legislation designated the Building Codes Division (BCD) as the official keeper of the “unfit for use” list — a list of properties that have been used for illegal drug manufacturing.

When the Health Division notifies BCD of an illegal drug lab property, BCD sends a letter advising the appropriate city or county building official of the property’s location. County assessors and health departments are also notified. By this time, the property owner has been advised of his or her responsibilities and is aware that continued use of the property without its being evaluated for contamination, decontaminated and certified as “fit to use” is unlawful — in fact a Class B misdemeanor since 1997 legislation.

Properties remain on the “unfit for use” list until a *certificate of fitness* is provided to the owner by the Health Division. The property is then removed from the list and BCD sends notice to the appropriate building official, the property owner, the local health department, and the county assessor.

“Unfit for use” property may be sold without being decontaminated; however, a written disclosure must be provided to the buyer, stating that the property has been declared unfit due to illegal drug lab activity. The new owner becomes responsible for decontami-

nation of the property. The Oregon Health Division wrote the administrative rules outlining decontamination, demolition, and disclosure processes to be followed by owners of “unfit for use” property.

All city and county building officials were advised of their responsibilities and received an explanation of the reporting, cleanup, and demolition processes. Officials received copies of the sign to be posted by enforcement agencies and a list of licensed drug-lab decontamination contractors.

*The Uniform Code for the Abatement of Dangerous Buildings*, published by the International Conference of Building Officials, contains the uniform standards whereby local building code enforcement agencies may act to condemn, demolish, and require the vacation of the property or removal of contents. (OAR Chapter 918, Division 010.) These provisions may be adopted by local ordinance.

Questions about this program should be referred to Tom Mitchell, Health Division, (503) 731-4012. Requests for copies of the drug lab registry or lists of properties by county, or requests for information about specific properties being on the list should be directed to Louann Goffin, Building Codes Division, (503) 373-7438. ■

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## Board appointments

Three new appointments were made to the Manufactured Structures and Parks Advisory Board, effective October 1: **Charles G. Lynch** fills the manufactured home manufacturer’s position, **Wallace Fort** fills the low-income housing position, and **Phillip Sterling** occupies the manufactured dwelling installer position. **Lynch**, from Portland, brings to the board 13 years of experience in the industry. He has been the division sales manager for Skyline Corporation since March 1994. **Fort**, from Beaverton, is an advocate

for affordable housing for senior citizens. He retired in 1992 from the Oregon Department of Vocational Rehabilitation. **Sterling**, a Dallas resident, has 21 years of installation experience. **William Peterson** was reappointed to this board effective October 1. He occupies the structural engineer position.

**Perry Shinn** was reappointed to the Plumbing Board effective November 1. He occupies the registered plumbing business position. ■

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# Staff advisory issued



The Technical Advisory Group recently issued the following advisory interpretation:

**Program:** Structural

**Subject:** Shading Coefficient of Windows

**Source:** 1996 Oregon Structural Specialty Code (OSSC)

**Reference:** Tables 13-F and 13-G

**Date of issue:** August 26, 1998

**Prepared by:** Ravindra K. Mahajan,  
Facilities Engineer,  
Technical Advisory Group,  
(503) 373-1354

**Question:** Is there a relationship between solar heat gain coefficient (SHGC) and shading coefficient (SC) for a glazed window?

**Determination:** The answer to the question is yes. The glass SHGC value may be converted to SC value by the following equation:

$$SC = \frac{SHGC}{0.87}$$

**Analysis:** Windows have traditionally been specified by the shading coefficient value. Use of the SHGC value for specifying window glazing as an additional identification method has started only recently. The 1997 edition of the *ASHRAE Book of Fundamentals* lists the above equation, which gives the relationship between SC and SHGC values for the center of the glass at normal incidence.

A code change proposal recommending inclusion of this information in the code has been submitted to the Building Codes Structures Board. If the board deems the change critical enough for an interim amendment, this change could become effective October 1, 1999. ■

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# Division completes three-year rule review



The division recently completed the three-year review of the manufactured dwelling administrative rules (OAR) Chapter 918, Divisions 500, 515, and 520. While most of the changes were editorial, some significant changes occurred regarding permits and inspections for manufactured dwelling installations.

Individuals applying for manufactured dwelling installation permits are now required to submit plot plans. Plot plans are intended to take the place of site inspections, reducing the number of required inspections from three to two. The two required inspections are an installation inspection and a final inspection. Inspections cover the following general areas: foundation installation, multi-section connections, plumbing connections,

mechanical connections and installations, fuel gas piping, electrical connections, exterior finish and weather seal, HUD-approved alternate construction, skirting installation, site grading and drainage, and smoke detector installations. For a more detailed list, see OAR 918-500-0065.

Installers of earthquake-resistant bracing systems are required to be licensed as manufactured dwelling installers and are required to take out installation permits and receive inspections for all earthquake-resistant bracing system installations, whether they're retrofits or part of the original home installation.

The amended rules will go into effect on January 1, 1999. ■

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# Editorial corrections to the 1998 OSSC



Three editorial corrections are needed to the 1998 Oregon Structural Specialty Code. The first is in Chapter 3. The Oregon amendment to Section 305.9 was removed from the code and model code language was approved for the section; however, Section 305.9 was inadvertently omitted. Please insert the following language immediately after Section 305.8:

**305.9 Fire Alarm Systems.** *An approved fire alarm system shall be approved for Group E Occupancies with an occupant load exceeding 50 persons. In Group E Occupancies provided with an automatic sprinkler or detection system, the operation of such system shall automatically activate the school fire alarm system, which shall include an alarm mounted on the exterior building.*

*See Chapter 10 for smoke-detection requirements.*

*For installation requirements, see the Fire Code.*

The new language in Section 1107.2.2 is correct; however, the language in the excep-

tion is redundant. We recommend crossing out the exception in this section, as there is no errata page scheduled.

In both Volumes 1 and 2, the second paragraph in Section 1804 is missing. To correct this printing error, add the following to the end of the section:

*Building sites for new structures and facilities defined by ORS 455.447 as essential facilities, hazardous facilities (as further limited in Section 1804), major structures and special occupancy structures shall be evaluated on a site-specific basis for vulnerability to seismic geologic hazards. This evaluation shall be done by an especially qualified engineer or engineering geologist registered by the state to practice as such. Such evaluation and report may require the services of persons especially qualified in fields of engineering seismology, earthquake geology or geotechnical earthquake engineering.*

Questions should be directed to Nanci Johnston, (503) 378-5838 or to Doug Alexander, (503) 378-4538. ■

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## Accessible-parking packets available

Because questions about state requirements for accessible parking are frequently asked of the Technical Advisory Group (TAG), the division has created a packet of information to help businesses eliminate confusion about the topic.

TAG, aware that business owners often search locally for answers to questions about state or federal law, has provided a packet to chambers of commerce throughout the state to help employees answer parking accessibility questions. The packet contains information that businesses must heed to meet state requirements and prevent costly mistakes. The packet includes:

- ORS 447.233, the Oregon law regarding accessible parking
- BCD's accessible parking requirements, with a flow chart to help determine which requirements apply to business and building owners
- Copies of the Oregon Transportation Commission's parking standards and schematics
- A list of striping and sign companies familiar with standards for disabled parking spaces in Oregon

For more information, call Nanci Johnston, (503) 378-5838, or Doug Alexander, (503) 378-4538. ■

# OMDS Q&A



## Manufactured dwelling foundations

### Question

Are the wood wedges used on recessed perimeter piers required to be installed parallel or perpendicular to the wood beams on top of a concrete pier?

### Answer

The 1997 Oregon Manufactured Dwelling Standard (OMDS) is not specific on the direction of the wood wedges in relationship to the wood beams. Section 304(d)(3)(B) of the OMDS states: "When wood wedges are used with these wood beams, they shall be installed at each end between the top of the pier shim material and the bottom of the horizontal beam." The wood wedges can be installed perpendicular to the beam (as depicted in Figure 304.5 of the OMDS) or parallel to the beam. However, if installed parallel to the beam, they need to be 16 inches long and driven from opposite ends of the pier to provide a minimum bearing surface of 54 square inches. Regardless of the method used, all wedges need to be driven tight to support the beam.

### Question

How should manufactured dwelling skirting be constructed when supporting more than 8 inches but less than 48 inches of backfill?

### Answer

According to Section 304(m) of the OMDS, when skirting supports more than 8 inches of unbalanced fill against one side, it shall be built as a retaining wall to 1996 Oregon Structural Specialty Code Standards. The retaining wall can be concrete block, poured-in-place concrete, foundation-grade lumber, or other approved materials, but the actual design is up to the permittee with the approval of the jurisdiction.

### Question

Is rebar required to connect the masonry units to a 4-inch slab? And would the masonry units need to be grouted?

### Answer

According to Section 304(e)(1)&(2) of the OMDS, masonry units used as piers are not required to be grouted or reinforced with rebar unless they are over 80 inches in height. Piers made of masonry units that are over 80 inches in height shall be laid in a steel-reinforced concrete footing with vertical #4 steel reinforcing bars inserted in each cell and the block cells filled with concrete according to Section 304(e)(3) of the OMDS. Masonry units used as skirting are cosmetic and are not required to be grouted or reinforced with rebar according to Section 802(b) of the OMDS. If the skirting is supporting more than 8 inches of unbalanced fill against one side, Section 304(m) of the OMDS requires it to be built as a retaining wall according to the OSSC, which may require both grout and rebar. Again, the actual design of the retaining wall would be up to the permittee with the approval of the jurisdiction.

### Question

Can the local inspector prevent me from pouring cement or laying block skirting for a manufactured dwelling just because the outdoor temperatures are below freezing?

### Answer

While the OMDS does not prevent concrete work from being done during freezing weather, Section 303(f)(4) of the OMDS does specify that all poured-in-place concrete have a minimum compressive strength of 2,500 pounds per square inch (PSI) when cured. It may be difficult to obtain these results if the cement is poured in below-freezing conditions without some kind of added protection. If a contractor is not taking action

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to protect the concrete from the freezing conditions, the inspector may turn down the inspection. If the contractor does not take corrective action, the contractor takes the risk of having to remove and replace the concrete or having it tested to assure compliance with the OMDS.

### Question

If a manufactured dwelling has one of the new floor systems without the traditional twin I-beam chassis (see “What’s new in manufactured homes” in this *Codelink*), at what height would the home have to be set and from where would the measurement be taken in order to be one foot above the base flood level?

### Answer

Section 308(c) of the OMDS requires that the underside of manufactured dwelling floors be elevated 12 inches above the base flood level. Unlike the traditional twin I-beam chassis, where the 1-foot dimension is taken from the top of the chassis or the bottom of the wood floor joists, in the new perimeter-steel-framed floor system the measurement would be taken from the bottom of the perimeter steel frame, which is the bottom of the floor.

### Question

Can approved fibers be put in a continuous concrete footing to take the place of the required rebar?

### Answer

No. Section 303(a)(8),(9)&(10) of the OMDS allows fibers to be put into continuous concrete footings and used as an alternative to wire fabric when the footing is a minimum of 48 inches wide, such as that used in three-pad pours, but it does not permit fibers to be used in place of rebar in continuous footings less than 48 inches wide. Until testing substantiates that fiber provides strength equivalent to rebar, the Division will continue to restrict its use in the OMDS.

### Question

Can footing types be mixed under a manufactured dwelling?

### Answer

Yes. There is nothing in the OMDS that prohibits using multiple footing types under a manufactured dwelling; however, mixed footings under a single pier are not allowed unless expressly permitted as an alternative by the jurisdiction. This often happens when concrete has been poured in the wrong location.

### Question

Is a manufactured dwelling installation permit required for the installation of earthquake-resistant bracing systems? Is an installer’s license required, too?

### Answer

Yes. Section 201(a) of the OMDS specifically requires permits for earthquake-resistant bracing systems, regardless of whether the installation is on a new home or a retrofit to an existing home. OAR 918-515-0005(1) requires any person engaging in the business of installing earthquake-resistant bracing systems to have an Oregon manufactured dwelling installer’s license.

## Natural gas in manufactured dwellings

### Question

With what code or standard do gas room heaters have to comply when field installed in manufactured dwellings?

### Answer

All heat-producing appliances field installed in manufactured dwellings must comply with the OMDS. Section 1101(e) of the OMDS requires that gas heaters, gas stoves, and gas fireplaces be listed for use in manufactured homes and that they be installed according to the listing and the appliance manufacturer’s installation in-

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structions. To be listed for manufactured home use, these appliances would have to meet the federal Manufactured Home Construction and Safety Standard 24 CFR 3280. 24 CFR 3280.709(d)(1) requires these appliances to have sealed combustion systems and to be listed to UL Standard 307B.

### Question

Are ventless gas room heaters or fireplaces permitted in manufactured dwellings?

### Answer

No. Section 1101(e) of the OMDS requires that gas room heaters or fireplaces be listed for use in manufactured homes and that they be installed according to the listing and the appliance manufacturer's installation instructions. To be listed for manufactured home use, these appliances have to meet the federal Manufactured Home Construction and Safety Standard 24 CFR 3280. 24 CFR 3280.707(b) specifically requires fuel-burning heat-producing appliances to be of the vented type and vented to the outside. Therefore, ventless gas room heaters or fireplaces are not permitted in manufactured dwellings.

### Question

Can you explain why the OMDS requires a 6-foot flexible gas connector as opposed to a 2-foot flex or even hard piping like a site-built house?

### Answer

Section 702(b) of the OMDS states that each natural gas supply shall be connected to the manufactured dwelling with an approved 6-foot flexible gas connector or gas piping equipped with a swing joint and a listed earthquake-activated gas shutoff device. The purpose of these two types of connectors is to prevent the gas line from breaking during an earthquake should the manufactured dwelling fall off its foundation. Unlike site-built housing, manufactured dwellings are not normally secured to their foundations. During a severe earthquake, it is possible for manufactured dwellings to fall

2-3 feet. If the gas lines were rigid, they could break and lead to a leak, fire, or explosion. The OMDS provides two methods to minimize this danger.

### Question

Can you provide an explanation or an example of the swing-joint configuration required for manufactured dwelling gas connections?

### Answer

Section 702(b) of the OMDS says each natural gas supply must be connected to the manufactured dwelling with an approved 6-foot flexible gas connector or gas piping equipped with a swing joint and a listed earthquake-activated gas shutoff device. The swing-joint configuration allows some flexibility to an otherwise rigid gas-supply pipe during a severe earthquake, when the home could fall off its piers. The swing joint is usually made up of one ell and one street ell fitting. One of the ells must be in the horizontal position so that if the manufactured dwelling should fall, the threads of the ells will allow the pipe to shift with the home, rather than break.

### Question

What is the size and rating of the six-foot flexible gas connector?

### Answer

The rating of a flexible gas connectors required by Section 702(b) of the OMDS depends on the diameter and the length of the connector. The most common connector for manufactured dwellings is 6 feet long, with a 3/4-inch inside diameter and a rating of about 173,900 British thermal units per hour (BTUH).

### Question

The OMDS requires an **approved** 6-foot flexible gas connector for manufactured dwellings. How do I tell when a flexible connector is an approved connector?

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### Answer

For natural gas, the approved flexible gas connectors required in Section 702(b) of the OMSD should be labeled with the following information: the BTUH rating of the connector, that it is “approved for manufactured (mobile) home use,” “approved for outdoor use,” and is certified to AGA requirement 3-87. An approved connector is equal to or greater than the total BTUH rating shown on the label attached to the side of the home near the gas supply inlet. For LP-gas, the flexible gas connector labeling information above would be the same except that the LP-gas connector would be certified to UL Standard 569.

### Question

How should the 6-foot flex be supported and coiled between the gas meter and the gas inlet of the manufactured dwelling?

### Answer

Because the intent of the 6-foot flexible gas connector is to allow movement, the flex connector should **not** be secured or coiled. It should be supported at its ends only. The flex connector should be installed in a U-shape so that if the manufactured dwelling *does* fall off the foundation, there’ll be enough play in the connector to prevent it from snapping or pulling apart. The flexible gas connector should **never** be installed in a manner in which it could become kinked, stretched, twisted, or torqued.

### Question

Can the 6-foot gas flex for the connection to pit-set manufactured dwellings be buried (ground-level installations)?

### Answer

No. The listings of the 6-foot flexible gas connectors prohibit the flex connectors from being buried or in contact with the ground.

### Question

Can the flex connector be run through skirting of the manufactured dwelling?

### Answer

No. The listings of the 6-foot flexible gas connectors prohibit the flex connectors from being run through the skirting. If the manufactured dwelling gas inlet does not protrude past the plane of the exterior wall of the manufactured dwelling, it must be extended with rigid pipe before the flexible gas connector is installed.

### Question

Can a flex connector be re-used for a secondary set of a manufactured dwelling?

### Answer

No. The listings of the 6-foot flexible gas connectors prohibit the connectors from being used again once they’ve been disconnected or damaged.

Questions concerning this article may be directed to Patrick Lewis, (503) 373-1326. ■

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## Administrator, *continued*

BCD is not in competition with the jurisdictions we serve. Our program reviews are aimed at improving plan review and inspection services provided by local jurisdictions. We can help by sharing with others the best practices we observe in the jurisdiction reviews and by giving building officials the information they need to make effective changes. Our support may be administrative or it may be justifying additional staff.

BCD is a provider of “last resort.” Our role is clearly defined by statute. We will not compete with local jurisdictions or third-party providers contracting with local jurisdictions for plan review or any other type of work. ■

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# Do espresso machines need backflow protection?



To most plumbing inspectors and installers throughout Oregon, the internal workings of espresso machines is a mystery. Because of all of the uncertainties, required backflow protection for these machines has varied from jurisdiction to jurisdiction.

Not all types of backflow devices or connections are addressed in the plumbing code. Varied interpretations about what backflow protection is needed for espresso machines has been a concern for a few years. For more uniform enforcement of the Oregon Plumbing Specialty Code regarding backflow protection and espresso machines, a group of concerned inspectors from various jurisdictions has met several times to provide some guidelines. This article is a result of those meetings.

## What is the proper backflow protection required for espresso machines?

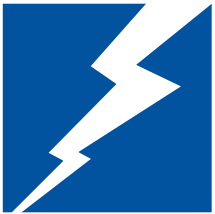
After careful review of espresso machine backflow hazards, the group has determined that **no backflow device** should be required for these installations. The level of hazard is negligible, considering the design and function of these devices.

“Espresso” literally means quick coffee. It is called quick coffee because the machine forces hot water through the ground coffee to produce the brew instead of allowing it to flow through the grounds by the force of gravity as it does in other types of coffee machines or percolators. In standard gravity coffee makers, backflow protection

*Please see “Espresso,” Page 18*

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# Manufactured home electrical alert



Through audits, the division has discovered cases in which electrical service equipment was undersized on larger manufactured homes. Because the size of manufactured homes continues to increase, so does electrical demand. In some triple-wide and two-story manufactured homes, the electrical demand has increased from 200 to 225 amperes or 300 amperes. Utility company and inspectors don't always realize this, which means 200-ampere services are being connected to manufactured homes demanding 225 amperes or higher.

To avoid this problem, utility companies and inspectors need to pay closer attention to the information provided by the manufacturer.

Federal Manufactured Home Construction and Safety Standard (24 CFR 3280.804) requires each manufacturer to permanently mark the total amperage requirements on a tag located on the exterior of the home near the feeder or service entrance to the home.

Utility companies and inspectors must read this tag to ensure correct service.

To compound the problem, the 225-ampere-plus demand does not take into consideration the other loads in the home such as the garage, the well, and other outdoor accessories. In most cases, the main panels are not large enough to handle additional circuits for external needs. If service equipment is attached to and part of the manufactured home, the only remedy may be to add a second service for the outdoor accessories. Section 403(c) of the OMDS states: “When multiple service equipment is used on a manufactured dwelling site, a permanent warning prominently displayed on the equipment shall identify the equipment to indicate the structure or accessories served.”

Questions concerning this alert can be directed to the Technical Advisory Group by contacting Patrick Lewis, (503) 373-1326, Kearby Sprague, (503) 373-1353, or Gary Wilson, (503) 373-7509.

# 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 Board of Boiler Rules found the following violations of the Oregon Specialty Codes in September 1998.

CITY .....	NAME .....	VIOLATION .....	CIVIL PENALTY ASSESSED
Clackamas .....	Robertson Plumbing Inc. ....	No installation permit .....	\$ 500
Creswell .....	Thomas E. White .....	No boiler/pressure vessel certification/ No installation permit .....	\$1000
	dba Gridline Plumbing		
Eugene .....	Jim Thurman .....	No boiler/pressure business license/ No installation permit .....	\$1000
Gold Beach .....	Mike Luzmoor .....	No boiler/pressure business license/ No installation permit .....	\$1000
	dba Gold Beach Refrigeration & Heating		
Portland .....	HVAC Incorporated .....	No boiler/pressure business license/ No installation permit .....	\$1000
Portland .....	Fullman Company, LLC .....	No installation permits (four violations) .....	\$2000
	dba Fullman Company		
Portland .....	Shepler Refrigeration, Inc. ....	No installation permits (six violations) .....	\$3000
Portland .....	Able Gable, Inc. ....	No boiler/pressure business license No installation permit .....	\$1000
Sandy .....	Randall Davis Rogers .....	No boiler/pressure business license No installation permit (two violations) .....	\$1500
	dba Randy Rogers Plumbing		
Turner .....	Il S Mechanical, Inc. ....	No installation permit .....	\$1000
Longview, WA .....	Hollinger Construction, Inc. ....	No installation permit .....	\$ 500
Edmonton, .....	Master Pools Alta, Ltd. ....	No boiler/pressure business license/ No installation permit .....	\$1000
Alberta, Canada			

## The Electrical and Elevator Board found the following violations of the Electrical Safety Law in September 1998.

Ashland .....	Michael A. Valenty .....	No electrical supervising or journeyman license .....	\$ 250
	Clearview Construction		
Coquille .....	Marca Electric Inc. ....	Failed to make corrections to electrical installation .....	\$ 500
Gresham .....	Adolfo Meifine .....	No electrical supervising or journeyman license .....	\$ 500
Lake Oswego .....	W. Scott Howard .....	No electrical supervising or journeyman license .....	\$ 250
Lake Oswego .....	Michael S. Wilson .....	No electrical contractor license (two violations)/ No electrical supervising or journeyman license .....	\$ 750
	Michael S. Wilson Company		
North Bend .....	Charles Joseph Daniel .....	No electrical supervising or journeyman license .....	\$ 500
Nyssa .....	Ralph Grimmer .....	No electrical contractor license/No electrical permit .....	\$ 750
	Ralph Grimmer's Signco		
Portland .....	Thomas Griessmann .....	No electrical supervising or journeyman license .....	\$ 500

CITY .....	NAME .....	VIOLATION .....	CIVIL PENALTY ASSESSED	
Portland .....	Branimir Jesic .....	No electrical supervising license/ Made unsafe electrical installation .....	\$ 750	
Portland .....	Juan Ordune .....	No electrical supervising or journeyman license .....	\$ 500	
Prineville .....	James Weisinger .....	No electrical supervising or journeyman license .....	\$ 250	
Roseburg .....	Stephen J. Andrecht .....	No electrical contractor license/ Preference Pools & Spas Sales and Service .....	No electrical supervising or journeyman license/ Made unsafe electrical installation (two violations) .....	\$1500
Roseburg .....	Roseburg Refrigeration Inc. ....	No electrical contractor license .....	\$ 500	
Roseburg .....	Southern Oregon Telecom Inc. ....	No electrical permit .....	\$ 250	
Salem .....	John L. Hamstreet .....	No electrical supervising or journeyman license .....	\$ 250	
	Pangaea Construction			
Salem .....	Joseph R. Hopkins .....	No electrical supervising or journeyman license .....	\$ 500	
Salem .....	JGCM Inc. ....	Allowed unlicensed individuals dba Northside Electric .....	to make electrical installations (two violations) .....	\$1000
Salem .....	Mosler Inc. ....	Allowed unlicensed individuals to make electrical installations (two violations)/ No electrical permit .....	\$1250	
Salem .....	Oregon Heating & Cooling Inc. ....	No electrical contractor license .....	\$1000	
Stayton .....	Dale Pader .....	No electrical supervising or journeyman license .....	\$ 500	
Wilsonville .....	Tualatin Electric Inc. ....	No electrical permits (two violations) .....	\$ 500	
Winder, GA .....	Vankirk Electric Inc. aka .....	Allowed unlicensed individuals to make Vankirk and Associates aka Ronald Vankirk .....	electrical installations .....	\$1000
Moline, IL .....	Montgomery Kone Inc. ....	Altered elevator without .....	\$1000	
		prior plan approval (fourth violation)		
Warren, NJ .....	Lucent Technologies Inc. ....	No electrical permits (two violations) .....	\$ 500	
Spokane, WA .....	Aztech Electric Inc. ....	No electrical permit .....	\$ 250	
Vancouver .....	Jose Lumos aka Jose Lumas .....	No electrical supervising or journeyman license .....	\$ 500	

**The Director of the Department of Consumer and Business Services found the following violations of the Oregon Specialty Codes in September 1998.**

Aloha .....	Victor Damwijk Orcawa .....	No electrical permit .....	\$ 250	
Grants Pass .....	Everett Grant aka Skip Grant .....	No prefabricated structure insignia Skips Cottages aka Grants Construction .....	of compliance .....	\$ 250
Harrisburg .....	Morse Bros .....	Shipped prefabricated structure without insignia of compliance (five violations) .....	\$1250	
Portland .....	Ted Dailey .....	No plumbing permit .....	\$ 250	
	Willamette Heating & Air Conditioning			

## The Electrical and Elevator Board found the following violations of the Electrical Safety Law in October 1998.

CITY .....	NAME .....	VIOLATION .....	CIVIL PENALTY ASSESSED
Dundee .....	Michael B. Reich .....	No electrical contractor license .....	\$ 500
Eugene .....	JB Electric Inc. ....	No electrical contractor .....	\$ 250
Hood River .....	Thompson Heating & Air Conditioning Inc. ....	license/No electrical permit .....	\$500
Lake Oswego .....	Intelli-Com Inc. ....	No electrical contractor license/ No electrical permit .....	\$ 500
Pendleton .....	Pendleton Electric Co. ....	No electrical permit .....	\$ 250
Portland .....	Tomas Griessman .....	No electrical supervising or journeyman license .....	\$ 500
Sweet Home .....	B. J. Ellington .....	No electrical supervising or journeyman license/ No electrical permit .....	\$ 750
Weiser ID .....	Hell's Canyon Electric Inc. ....	Allowed an unlicensed individual to make an electrical installation .....	\$ 500
Weiser ID .....	Joshua L. Rathbun .....	No electrical supervising or journeyman license .....	\$ 500
New York NY .....	IIN Services Inc. ....	No electrical contractor license .....	\$ 250

## The Plumbing Board found the following violations of the Oregon Specialty Codes in October 1998.

Canby .....	Stephen C. Renhard .....	No journeyman certification .....	\$ 500
Coos Bay .....	A.C. West Plumbing, Inc. ....	No plumbing permit .....	\$ 500
Eugene .....	Chapman Plumbing, Inc. ....	Employed unlicensed individual to make a plumbing installation .....	\$ 500
Grants Pass .....	George Heimos dba Heimos Plumbing .....	No plumbing permit .....	\$ 500
Grants Pass .....	Loren A. King dba Easy Rooter .....	No journeyman certification .....	\$ 500
North Bend .....	Charles Joseph Daniel .....	No journeyman certification .....	\$ 500
Hillsboro .....	Pac West Plumbing, Inc. ....	No plumbing permit .....	\$ 500
Tigard .....	ACI Mechanical, Inc. ....	Employed unlicensed individual to make a plumbing installation .....	\$ 500
Vancouver, WA .....	David Burt .....	No journeyman certification .....	\$ 500

The September/October issue showed a \$250 civil penalty assessment against Joe Brewer of Sandy. This is **not** the Joe Brewer who is the Building Codes Division administrator.

# Administrative rules took effect Oct. 1



A number of administrative rule changes became effective October 1. Copies were mailed to building officials. Following is a summary of the changes:

**OAR Chapter 918, Division 020** adopted new rules implementing 1997 House Bill 2027, establishing guidelines for a master builder pilot program in the City of Salem and Marion County. Minor amendments were also made to the rest of the division of rules following a three-year rule review.



**OAR Chapter 918, Division 200** changes resulted from an industry advisory committee review of amusement ride rules.



**OAR Chapter 918, Division 225** boiler rule amendments corrected reference errors and defined circumstances under which certificates of competency or business licenses can be suspended.



**OAR Chapter 918, Division 283** replaced a temporary rule suspending code-change continuing education requirements for some electrical licensees.



**OAR Chapter 918, Division 309** permanently increased electrical permit fees, replacing a temporary rule.

**OAR Chapter 918, Divisions 440, 450, 460, 470, 480 and 900** were amended following a three-year rule review. Divisions 440, 460, and 480 adopt the Mechanical, Structural and One and Two Family Dwelling Specialty Codes. Division 450 amendments primarily updated OR-OSHA rule references having to do with farm worker housing. Division 470, the abatement of buildings damaged by earthquake, underwent some minor editorial changes. Division 900 was repealed because the statute for weatherization requirements for veterans' loans was repealed.

**OAR Chapter 918, Division 674** underwent major revision following a three-year prefabricated structures rule review. The major change incorporates information from Oregon Structural Specialty Code Section 1704 into the rule (See article on page 16).

**OAR Chapter 918, Divisions 695 and 780** modifications reflect housekeeping issues discovered following the three-year rule review of plumbing rules.

Questions may be referred to Louann Goffin, rules coordinator, (503) 373-7438. ■

## PPPIs rescinded

The Building Codes Structures Board and BCD rescinded the following product, policy, and procedure interpretations (PPPI) because code language is now adequate. The following were rescinded:

- PPPI 2021 Local Amendment, Multnomah County
- PPPI 4045 Enclosures for Stairs in 2-Story Buildings with a Basement
- PPPI 4055 Emergency Egress Windows Directly to the Outside
- PPPI 4058 Determining Light, Ventilation and Heat for Adjoining Rooms

- PPPI 4089 Building Official's Responsibility to Get F&LS Plan Review Prior to Issuing a Building Permit
- PPPI 4105 Certified Welders
- PPPI 4115 Pole Foundation, Depth of Embedment
- PPPI 4122 Valuation and Permit Fees

Copies of these rescissions were mailed to all building officials. Individuals not affiliated with a jurisdiction may request a copy from their local building official or call Louann Goffin, (503) 373-7438. ■

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# What's new in manufactured homes?



Innovations abound in the Oregon manufactured home industry this year. The industry built the first 16-foot-wide manufactured homes in Oregon, designed a new floor system that incorporates the floor framing and the chassis into a single component, and manufactured the first two-story manufactured homes in the Northwest. If you attended the Oregon State Fair this year, you may have seen the manufactured home that incorporated all three of these new technologies.

As with most construction innovations, it takes time for codes to catch up with technology, and the Oregon Manufactured Dwelling Standard (OMDS) is no different. These three new technologies have raised numerous questions on how to apply the OMDS.

For instance, 16-foot-wide manufactured homes weren't foreseen when the OMDS was written, so Table 304 (the pier and footing size, spacing, and capacity schedule) doesn't take into consideration the additional dead and live loads imposed by the extra two feet of width.

Table 304 also doesn't take into consideration the almost-doubled loads on the foundations of two-story manufactured homes or

how to support manufactured homes that don't have the typical double I-beam chassis. Section 301(e) of the OMDS states: "Manufactured dwellings with unique installation requirements not specifically addressed in this standard shall be installed to the manufacturer's installation instructions, but only for that specific portion of the installation." This means that in the three cases mentioned above, the manufacturer's installation instructions would be used for the construction of the foundation system, but that all other portions of the installation, such as plumbing, electrical, mechanical, and ventilation, would still have to comply with the OMDS.

When the manufacturer's installation instructions are used, installers should be aware that Section 301(f)(1) of the OMDS specifically requires that prior to the installation certain communication take place with the authority having jurisdiction, and Section 301(f)(2) requires that the manufacturer's installation instructions be left onsite, temporarily attached to the pier closest to the utility connection or the underfloor access.

Questions concerning this article may be directed to Patrick Lewis, (503) 373-1326. ■

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## Stakeholder meeting scheduled

These meetings are scheduled to allow our customers to discuss concerns or to ask questions about the building codes programs administered by the state. The November 16 meeting will be in Wasco County at the Mid-Columbia Senior Center, 1112 West 9th Street, The Dalles, Oregon 97058. The meeting starts at 7 p.m.

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# New prefab structure rules take effect



As a result of several months of meetings by the Prefabricated Structures Three-Year Rule Review Committee and the Building Codes Structures Board, the prefabricated structure rules (OAR Chapter 918, Division 674) were amended and went into effect Oct. 1.

The main change in the prefabricated structure rules was to incorporate the contents of Section 1704 of the Oregon Structural Specialty Code. This eliminated the duplications and contradictions within the two documents. Section 1704 of the 1998 Oregon Structural Specialty Code will be eliminated except for a single reference to the prefabricated structures administrative rules. This will help the division react more quickly to changes in the prefabricated structure industry by allowing rule changes not restricted to a three-year cycle.

Amendments to the rules have done the following:

- Updated the current procedures, providing a more streamlined method of regulating the prefabricated structure industry

- Further defined different types of prefabricated structures
- Further defined the responsibilities of state and local government regarding the regulation of manufactured dwellings
- Clarified certain exemptions to the various codes in the construction of prefabricated structures
- Allowed the division to use the services of an inspector from a municipality for in-plant or site inspections
- Required that manufacturers supply local jurisdictions with full sets of division-approved plans for incomplete structures
- Removed the percentage restriction on local jurisdictions' permit fees and allowed them to charge permit fees based on the total value of work performed on site
- Allowed the local jurisdiction to act as a third-party inspector for prefabricated structures.

Copies of the amended rules were sent to building officials. If you have questions regarding prefabricated structure code requirements, call Doug Alexander, (503) 378-4538.

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# Internet license database now available



The Building Codes Division, with assistance from the Information Management Division of DCBS, has made the division license database available to Internet users.

The information available on BCD's Web page, [www.cbs.state.or.us/external/bcd/licensing/main.htm](http://www.cbs.state.or.us/external/bcd/licensing/main.htm), can be searched and sorted in various ways. For example, you can search contractor or individual electrical or plumbing licenses or manufactured dwelling or boiler installers. Addresses and telephone numbers are intentionally omitted to maintain licensees' privacy.

The file information is revised weekly to update license status. The entire database file can be downloaded, although its size

may make this a lengthy process. The file includes only active records. Individuals not included on the list are either not licensed or their licenses have become inactive for some reason.

BCD is interested in your feedback on the licence database. Please let us know your suggestions by contacting the licensing section supervisor, Marlene Kohanes, by phone, (503) 373-1247, or by e-mail, [marlene.a.kohanes@state.or.us](mailto:marlene.a.kohanes@state.or.us). You may also call Gary Basin, (503) 373-7755, or send e-mail to him, [gary.p.basin@state.or.us](mailto:gary.p.basin@state.or.us).

If you have questions regarding the content of the database, call the license search contact at (503) 378-3980. ■

# Aschim and Lewis reassigned

Pat Lewis and Allen Aschim of the Building Codes Division have both been reassigned. Allen received a promotion and is now in the Regulatory Services Section. Allen is no longer available to answer code questions or help with licensing issues. Pat Lewis has been transferred to the Statewide Services Section so he can be more accessible to the division's manufactured dwelling, recreational vehicle, and park/camp inspection and plan review staff. Pat will remain a

member of the Technical Advisory Group, although his location and telephone number have changed. Pat will continue providing some services for the manufactured structures and parks programs; however, the responsibility for prefabricated structures has been transferred to Doug Alexander.

To help Pat concentrate his efforts on code development, interpretation, and training, we are redirecting all manufactured structures and parks inquiries to the following:

Manufactured dwelling consumer assist. (SAA) .....	Albert Endres .....	378-5975
Manufactured dwelling installation codes (OMDS) .....	Albert Endres .....	378-5975
Manufactured dwelling federal codes (IPIA) .....	Kurt Pugh .....	378-6065
Manufactured dwelling installation training classes .....	Allen Rust .....	378-8053
Manufactured dwelling installer licensing .....	Susan Phillips .....	378-3115
Manufactured dwelling OSU monitoring .....	Allen Rust .....	378-8053
Manufactured dwelling compliance issues .....	Andra McDaniel .....	378-6988
Manufactured dwelling alterations under federal std. (IPIA) ..	Albert Endres .....	378-5975
Manufactured dwelling alterations under 1&2FDSC/OMDS .	Patrick Lewis .....	373-1326
Manufactured dwelling park construction codes .....	Ben Benson .....	378-1235
Park Trailer construction codes .....	Ben Benson .....	378-1235
Prefabricated structure inspections, permits, or plans .....	Mary Jane Whittmore ..	373-6237
Prefabricated structure (modular) code requirements .....	Bob Buckles .....	378-2833
Prefabricated structure formal interpretive rulings .....	Doug Alexander .....	378-4538
Prefabricated structure (modular) code change committee ..	Doug Alexander .....	378-4538
Prefabricated structure (modular) operations .....	Etta Foote .....	373-1983
Prefabricated structure (modular) operations .....	Mark Long .....	373-1227
Building Codes Structures Board secretary .....	Ravinda Mahajan .....	373-1354
Recreational vehicle construction codes .....	Ben Benson .....	378-1235
Recreation park and organizational camp codes .....	Ben Benson .....	378-1235
Manufactured Structures and Parks (MSP) operations .....	Dana Roberts .....	378-8450
Manufactured Structures and Parks (MSP) operations .....	Rick Lloyd .....	378-2306
MSP inspector and plan review certifications .....	Heather Gravelle .....	373-1249
MSP certification continuing education .....	Debi Barnes-Woods ....	378-3702
Copies of MSP codes, rules or statutes .....	Louann Goffin .....	373-7438

Please see "Aschim and Lewis" Page 20

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## Espresso, *continued*

is provided by an air gap between the water inlet and the water heating reservoir. Old-fashioned coffee percolator backflow protection is provided at the sink where the pot is filled again through the faucet air gap connection. However, espresso machines usually are connected directly to the potable water plumbing system.

Espresso machines have a small chamber used to generate low-pressure steam from the drinking water. Water supplies connected to espresso machines have check valves that allow water entering the machine to flow in one direction only. These check valves aren't installed for backflow purposes but to allow steam pressure to develop within the machines without being forced back into the water supply piping.

If the steam generator check valve in an espresso machine fails, the machine will not function. This is because steam pressure will not be maintained in the vessel to push the water through the grounds. The small amount of steam that might back up into drinking water systems in such espresso machine failures would not contaminate or pollute the drinking water.

An espresso machine is basically a small water heater. As such, it doesn't require backflow protection at the water connection. Backflow protection is provided by the air gap from the coffee container and the machine outlet.

Most commercial food service equipment provides whatever backflow protection is necessary.

The Plumbing Code's main objective is to provide safe and sanitary plumbing installations. Backflow protection in installations of potable water must prevent used, un-

clean, polluted, or contaminated water, mixtures, or substances from entering any portion of piping from any plumbing fixture, device, or potable connection. Backflow protection employs mechanical backflow prevention devices or methods of water piping connections. Backflow prevention devices only allow water to flow in one direction and, in some cases, actually discharge water to the atmosphere when the slightest back pressure is present.

Backflow prevention devices are designed for specific levels of backflow or cross connection protection. The levels are defined in the plumbing code as the degree of hazard and are either rated as "pollution" (low hazard) or "contamination" (high hazard). Low-hazard installations include any plumbing water connection that may result in impairment of the quality of potable water to a degree that doesn't create a hazard to the public health, but does adversely affect the aesthetic qualities of potable water.

Generally speaking, *pollution* may cause the water to be turbid or even to have an unpleasant odor, but not to be a hazard to human health. On the other hand, *contamination* is an impairment of the quality of the potable water that creates an actual hazard to human health by poisoning or spreading disease by sewage, industrial fluids, substances, or waste.

It's easy to see why these provisions of the plumbing code are so important and that the determination of the level of hazard, when considering cross connection control for backflow protection, must be made carefully.

Questions may be referred to Terry Swisher, (503) 373-7488. ■

# Board meeting dates

## ELECTRICAL & ELEVATOR BOARD \_\_\_\_\_

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

- November 19\*
- December 17\*

## BUILDING CODES STRUCTURES BOARD \_\_\_\_\_

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

- November 4 (canceled)
- December 2

## MANUFACTURED STRUCTURES & PARKS ADVISORY BOARD \_\_\_\_\_

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

- January 14, 1999

\* Third Thursday

## STATE PLUMBING BOARD \_\_\_\_\_

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

- December 18

## BOARD OF BOILER RULES \_\_\_\_\_

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

- December 1

**\*\*Note:** The Board of Boiler Rules will begin holding meetings in Salem December 1.

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

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## New phone, e-mail lists available

BCD's telephone and e-mail lists are now on the external Web site at:

[www.cbs.state.or.us/external/bcd/web-phon.htm](http://www.cbs.state.or.us/external/bcd/web-phon.htm).

There is also a link to them at the top of the home page:

[www.cbs.state.or.us/external/bcd](http://www.cbs.state.or.us/external/bcd).

## Aschim and Lewis, *continued*

Patrick Lewis will continue to answer inquiries about manufactured dwelling alteration or addition codes; MSP code, rule, or statute changes; continuing education; advisory committee business; formal interpretive rulings; MSP Advisory Board business; and code or rule change proposals related to these topics. His phone number is 373-1326, and his mailing address is PO Box 14470, Salem, Oregon 97309. You may send faxes to Patrick, (503) 378-4101.

Submit code or rule change proposals for prefabricated structures, codes, or rules to Doug Alexander, PO Box 14470, Salem, Oregon 97309, or send faxes to (503) 378-2322.

440-2666 (10/98/COM)



**Building Codes Division**  
1535 Edgewater St. NW  
PO Box 14470  
Salem, OR 97309

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.

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In compliance with the Americans with Disabilities Act (ADA), this publication is available in alternative formats.

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