

Question of the Month

All metal piping systems and all grounded metal parts in contact with the circulating water in a hydromassage bathtub must be bonded together using a solid copper bonding jumper, insulated, covered, or bare, not smaller than 8 AWG. Question: If the water piping serving the hydromassage bathtub is non-metallic, is the bonding jumper required to extend to another area? (e.g., other metal water piping, the panel serving the tub, a grounding electrode, etc.) - See correct answer on Page 2.

Note From The Chief

The winter season has arrived. Wind, flooding, snow and ice will occur. Be prepared for these problems and the likelihood of short and long-term power outages. We have published several Electrical Currents articles to help you prepare for the winter season. Each year, we receive many questions about storm damage such as; how do I wire my generator? Learn what repairs you must make when [floods and other natural disasters](#) damage your wiring.

Improper generator installations and flood damaged wiring pose some of the most significant risks to your family and property. Before the flood or wind damage, search the entire [Electrical Currents Newsletter](#) by downloading all editions since January 2009 or the editions from 1998 through 2008. Then use the search function and search for flood or generator.

Do not be sorry, be SAFE!

Stakeholder Meetings

Remember to attend a stakeholder meeting to receive the latest information about the Electrical Program and for a chance to provide feedback to the Department. You can attend a meeting in Tukwila, Wenatchee, Yakima, Mount Vernon, and Everett during November and in Kennewick, Pullman, Spokane, and Moses Lake during December. You can find a list of meeting locations in the [September 2012 Electrical Currents](#) or by visiting the [Electrical Calendar](#) page on our website.

Generator Backfeed Near-Miss

Last month, a Potelco line crew working in Pierce County experienced a dangerous near-miss. A backfeed from a customer's temporary generator had energized the utility's wiring. Luckily, the crew discovered that power was present and was not injured.

A similar situation occurred in Yakima a few years ago when a new service panel was energized during construction by a temporary generator. While working on the utility system, a meter technician was injured. The service conductors were energized by backfed power from an improperly installed generator.

With the coming storm season, anyone doing electrical work needs to be aware of the potential for a circuit that is de-energized to suddenly become energized. Always verify that a circuit is isolated from its source of supply and from any potential sources of backfeed before working on it.

Installing a generator system is potentially one of the most dangerous types of electrical installations to your family, employees, and the utility's line workers. Legally and safely installing a generator system is very specialized work that

Safety Tip of the Month!

In the coming months, be prepared for deteriorating driving conditions. Rain, fog, ice, and snow are on the way. Slow down and increase your following distance to help compensate for decreased traction and visibility. Make sure your windshield wipers work well and wiper fluid is full. To help prepare for winter driving, see the [Winter Travel](#) page on the WA State Department of Transportation website.

requires expertise and experience. Prior to making a generator system purchase or installing a generator system, review the special edition *Electrical Currents* – [October 2007](#). All the information in the article is still relevant and accurate.

L&I strongly encourages anyone interested in having a generator system installed at their home or business to work with a properly licensed electrical contractor. Before beginning the work, get written bids from two or three electrical contractors and verify that each has significant experience installing generator systems. Ask for references. Then make certain your contractor gets an electrical permit and has an inspection to verify that the work was done correctly and safely.

GFCI and AFCI Requirements

We are re-visiting the subject of an article published in the [March 2006](#) *Electrical Currents*.

NEC 210.8 contains the requirements for GFCI protection for personnel. Studio apartment receptacles must comply with 210.8(A). There are no exceptions to the bathroom GFCI requirement. For example, if a washing machine is located in the bathroom, the required laundry receptacle must be GFCI protected. Receptacles installed to serve the countertop surfaces in kitchens and receptacles that are within six feet of the outside edge of laundry, utility, and wet bar sinks must also be GFCI protected.

WAC 296-46B-210(4) requires AFCI protection only in dwelling unit bedroom spaces. The dictionary defines bedroom as “a room intended for sleeping.” In a studio apartment, the living area and sleeping area is one room. AFCI protection is required for all 120-volt, single phase, 15- and 20-ampere outlets in the studio’s living area because there is only one room and it includes the sleeping area (i.e., bedroom). AFCI protection is required for outlet circuits in any other area that shares the studio’s bedroom area (e.g. kitchen, dining area, etc.). See NEC 100 for definition of outlet) circuits in the shared living/bedroom.

Neither the NEC nor the WAC prohibits installing AFCI protection on other circuits, in locations other than bedrooms, or on circuits having GFCI protection.

More Payment Options Are Now Available

The department now accepts Visa, Mastercard, Discover, and American Express both online and in field service locations.

Permitting Concerns

The department’s recent upgrade of the online electrical permitting system resulted in some online purchased electrical permits not being completely saved into the permitting system. Working with our customers, L&I staff has recreated these permits. If you experience problems with the permitting system, contact Phyllis Cooper at 360-902-5293 or Kellie Carlson 360-902-5223 for assistance.

Ugly Installations

Online readers - click on the picture to open a larger image in another window.
Violations: NEC 110.3(B) - Improper use of conduit sealing fitting. (This circuit does not serve a hazardous location)

Answer to Question of the Month: Not unless the manufacturer’s installation instructions require it. According to NEC 680.74, the bonding jumper is required for equipotential bonding in the area of the hydromassage bathtub. The NEC does not require it to be extended or attached to any remote panelboard, service equipment, or any electrode.



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