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**Question of the Month** – Which systems are required to be disconnected simultaneously from all sources of supply by the emergency disconnecting means for a motor fuel dispenser? 1) Power, 2) Communications, 3) Data, 4) Video, 5) Equipment for remote pumping systems, 6) All of the above. – See correct answer on page 2

## Electrical Permit Requirements for HVAC Replacements and Retrofits

In the most recent revision to [WAC 296-46B-908](#), the scope of work for Class B labels was revised to include “and associated Class 2 low voltage wiring” for single like-in-kind replacement of an electric/gas/oil furnace not exceeding 240 volts and 100 amps, or an individually controlled electric room heater, air conditioning unit, heat pump, or refrigeration unit not exceeding 240 volts, 40 minimum circuit amps (see paragraphs (10)(b)(iii) and (10)(b)(iv)). There is confusion about when the term “associated” applies to the low voltage cable, especially when a new unit such as an air conditioner or heat pump is installed while replacing the furnace. The term “associated” means only the cable originally connected to the unit listed on the Class B label may be extended or replaced to accommodate the replacement unit. It does not include new cable installed to a new unit. Below are two scenarios with options for permit requirements and explanations for each.

**Scenario 1** – Like-in-kind replacement of a single furnace, heating unit, air conditioner, or heat pump meeting the voltage and current limitations above:

- Option 1 – One Class B label includes disconnecting and reconnecting both the line and low voltage conductors for the new unit. If the low voltage conductors must be extended or replaced, they are considered “associated” and may be done on the same Class B label as long as they are conductors originally connected to the unit listed on the Class B label to accommodate the replacement. No modification to the line voltage branch circuit conductors or raceway is allowed with a Class B label.
- Option 2 – A regular permit may be used for this task. Fees must be included for both the altered branch circuit and the low voltage thermostat cable.
- Thermostat permit fees are required for the new or altered low voltage cable(s). Replacement of a thermostat in the same location is, in most cases, a Class A permit-exempt task ([WAC 296-46B-901\(7\)\(b\)\(i\)](#)).
- “Like-in-kind” means having the same overcurrent protection requirements and similar characteristics such as voltage requirement, current draw, short circuit characteristics, and function within the system and being in the

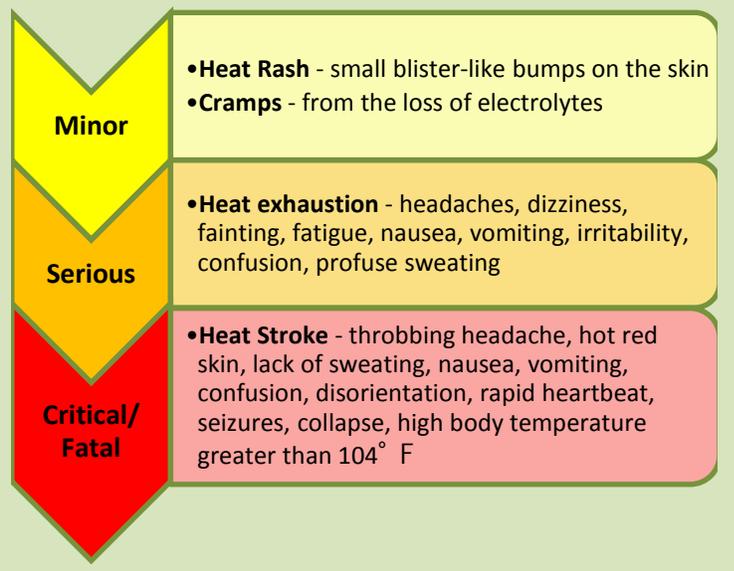
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## Safety Tip of the Month

Summer heat is here! Stay hydrated and avoid extreme heat conditions. Heat related illness ranges from mild to potentially fatal. Find great tips and resources for protecting yourself, co-workers, and employees on the [Outdoor Heat Exposure](#) page of L&I’s website.



same location ([WAC 296-46B-100](#)). If the replacement unit requires a different overcurrent protection size (smaller or larger), it is not like-in-kind, not Class B eligible, and reconnecting the line voltage supply conductors is not within the work scope of (06A) or (06B) specialty electrical contractors and electricians. A regular permit is required with a fee for the altered circuit as well as a permit fee/Class B label for the low voltage cable.

**Scenario 2** – Like-in-kind replacement of a single furnace, along with installation of a new air conditioner or heat pump:

- A regular permit is required for the line voltage branch circuit to the new unit. The branch circuit fee is good for up to four circuits, which includes the altered circuit for the replacement furnace if done by the same contractor. All low voltage wiring including the cable to the new unit can be performed on one Class B label or a regular permit fee for the low voltage thermostat cable.
- The installation of new line voltage branch circuit wiring to the new unit is not within the work scope of the HVAC specialty (06A) or (06B) contractors or electricians. This is also true for installation of the line voltage cable interconnecting the outdoor and indoor units of a ductless split system air conditioner or heat pump (see the [November 2013](#) Electrical Currents newsletter article). This work must be done by (02) residential or (01) general electrical contractors and electricians. If more than one contractor does this work, each contractor must have a permit(s) for their own work scope. The HVAC contractor would be able to replace the furnace on a Class B label. They could also install the new low voltage cable to the new outdoor unit on another Class B label (new low voltage cable to the new unit is not “associated” with the furnace replacement). The new branch circuit wiring installed by the (02) or (01) contractor requires a regular permit with a fee for line voltage circuits.

### Good Job Descriptions and Driving Directions Equal Quicker and Better Inspections

Imagine trying to find a jobsite and figure out what you need to inspect with little or no information to go on. Inspectors rely on driving directions and permit and inspection descriptions to get the job done. It slows them down when they do not have good information. Help your inspector find your jobsite and the exact work you want inspected quickly. A few details are all it takes. The following are actual job descriptions received on permits:

Bad	Good
<ul style="list-style-type: none"> <li>• Extend circuit</li> <li>• Lights</li> <li>• Run a circuit</li> <li>• Homeowner request</li> </ul>	<ul style="list-style-type: none"> <li>• Circuit to new heat pump in back yard</li> <li>• Add an outlet at vanity in master bathroom</li> <li>• 100 amp underground feeder from panel in garage to wiring in new barn</li> </ul>

Can you tell the difference? The first four are virtually useless to the inspector. The last three are clear and will enable the inspector to find the work you need inspected quickly. The permit job description field will take 255 characters.

Like the job description, it is equally important to provide good directions to your jobsite. Within the next five years, seventy-five percent of our staff will be relatively new. Newer inspectors may not be as familiar with your area as you are. Provide directions from the nearest main street, highway, or intersection that an inspector from another area would be able to find. Please do not cut and paste directions from mapping software. Here are some examples of bad and good directions:

Bad	Good
<ul style="list-style-type: none"> <li>• Just past the green shop on Brown Rd.</li> <li>• Hwy 20</li> <li>• See map</li> </ul>	<ul style="list-style-type: none"> <li>• North on Hwy 821 from Selah, 1.2 miles past Pomona, right on Selah Creek Dr.</li> <li>• I-82 East to Exit 75, right on McCreadie, right on Wine Country Rd.</li> </ul>

As with job descriptions, it is easy to tell the difference between good and bad driving directions. Help yourself by helping your inspector. Together we can improve and everyone will benefit.

**Answer to Question of the Month:** 6) All of the above. A change in 2011 NEC® 514.11(A) and 514.13 clarified that all associated power, communications, data, and video circuits must be disconnected simultaneously to remove all external sources. This requirement also applies to replacement dispensers.

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