



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

Ron Fuller, Chief Electrical Inspector

Vol. 10 No. 4

April 2007

● Change Of Inspection Jurisdiction For Tukwila

L&I was informed in mid March that the City of Tukwila was taking responsibility for all electrical inspections effective April 2, 2007. Permits and inspections for electrical installations done within the city limits of Tukwila must be obtained directly from the city of Tukwila. Please contact the city for permit requirements and information. The City of Tukwila's web site address is:

<http://www.ci.tukwila.wa.us/>

Do not buy your City of Tukwila electrical permits from an L&I counter or from our online permitting system. Labor and Industries will continue to perform inspections on electrical permits purchased prior to April 2nd. Refunds are not allowed on any permit that has had an inspection.

● Outdoor Feeders – more than one building or structure

Outdoor feeders have very different requirements than services. NEC 225.30 has specific restrictions for the number of outdoor feeder supplies to a building or structure. Except as allowed in NEC 225.30 (A) – special conditions, (B) – special occupancies, (C) – capacity requirements, (D) – different characteristics, and (E) – documented switching procedures, only **one feeder supply** is allowed to a building or structure.

Disconnecting means must be installed for all ungrounded conductors that supply or pass through a building (NEC 225.31). The building or structure disconnecting means must be installed either inside or outside, within 15' of the footprint of the building or structure (WAC 296-46B-225). The disconnecting means must consist of no more than six switches or circuit breakers mounted in a single enclosure, in a group of enclosures, or in or on a switchboard. The allowed disconnects must be grouped and marked to indicate the load served (NEC 225.34). You should refer to NEC 225 II Section II, *"More Than One Building or Other Structure,"* for other outdoor feeder requirements.

● Telecommunication (09) Contractor Scope of Work

Recently, the department has written citations to telecommunication (09) contractors for working outside the scope of their license (i.e. installing cable tray classified for use as an equipment grounding conductor). The (09) contractor's scope of work is limited to the installation, maintenance, and testing of telecommunications systems, equipment, and associated hardware, pathway systems, and cable management systems. Telecommunication technician certification is not required; but the technician must be employed by a licensed (09) contractor while performing telecommunications work.

Until recently, unclassified cable tray systems were available for use by the telecommunications industry. Because unclassified tray is not approved for use as an electrical wiring method (e.g. grounding conductor), the installation of the unclassified tray was allowed to be done by telecommunications contractors as a "cable management system." The most common brand-name tray product that was typically used by the telecommunications industry recently received a "classified for equipment grounding" approval for their product. When the tray system is suitable for use as an electrical wiring method, its installation cannot be done by a telecommunications contractor.

Cable support and raceway methods allowed to be installed by a telecommunication (09) contractor are limited to:

- Cable management systems
- Surface nonmetallic raceways designed and used exclusively for telecommunications;
- Optical fiber innerduct raceway; and
- incidental short sections of metal raceway, not to exceed 10'.

See WAC 296-46B-920 for more details on the scopes of work for all specialties.

<http://www.lni.wa.gov/TradesLicensing/Electrical/LawRulePol/LawsRules>

● Correction Reduction Initiative

The selected contractors in the correction reduction initiative continue to do a great job in further reducing their corrections. The selected contractors have reduced their corrections from a prorated average of 40,386 corrections to 29,965 per year. This is an overall decrease of 26%. This is a tremendous improvement over their July-August 2006, numbers. The improvement in the quality of work has saved them and the department considerable resources. A new group of contractors will be selected in July based on the number of corrections issued from July 2006 through June 2007.

Remember, every correction you receive costs you and the Electrical Program time and money. Please continue to work with your electricians to help them improve their installations.

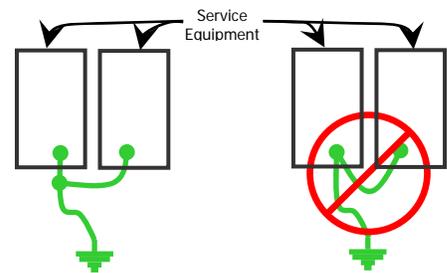
● Grounding Electrode Conductor Attachment For Multiple Service Enclosures

When a service consists of more than a single enclosure, the grounding electrode conductor must be:

- Taken separately to each enclosure; or
- Tapped and a separate tap taken directly to the inside of each enclosure.

Installers are not allowed to run a grounding electrode conductor from the electrode through one enclosure to another. When a grounding electrode conductor is installed in such a manner, it is not a permanent and effective grounding path as required in NEC 250.68.

NEC 250.64(D) allows the grounding electrode conductor to be tapped and a separate tap taken directly to the inside of each enclosure. Tap installation requirements can be found in NEC 250.64(D).



● Generator Permit Fees

The fees for permanently installed generator systems are based on the fees charged for feeders. A generator system includes all installed equipment from the source of power to the supplied disconnect and overcurrent device (typically a panelboard).

In a new single or two-family dwelling, the entire generator system permit fee is included in the square footage fee for the dwelling unit(s). No additional fees are required.

In a new multi-family dwelling, the generator system fee must be calculated using the feeder fees listed in WAC 296-46B-905(1)(b).

In an existing single, two-family building, or when modifying an existing generator system in a multi-family dwelling, the generator system fee must be calculated using the feeder fees listed in WAC 296-46B-905(1)(c).

In a new commercial facility, the generator system fee must be calculated using the feeder fees listed in WAC 296-46B-905(2)(a).

When modifying an existing generator system in an existing commercial/industrial facility, the generator system fee must be calculated using the feeder fees listed in WAC 296-46B-905(2)(b).

Depending on the system design, there may be one or more feeders involved in the generator system.

● Electrical Question of the Month

This Month's Question: The rating of the required disconnecting means for each ungrounded conductor of a capacitor bank shall not be less than ____% of the rated current of the capacitor.

A) 100%, B) 115%, C) 125%, D) 135%.

Last Month's Question: Ground-fault circuit-interrupter protection for personnel shall be provided for outlets that supply _____ installed in dwelling unit locations and supplied by 125-volt, 15- and 20-ampere branch circuits.

A) attics, B) boat hoists, C) unfinished basement bedrooms, D) none of the answers are correct