WASHINGTON STATE PATROL – FIRE PROTECTION BUREAU
INSPECTION SECTION
P.O. Box 42600, Olympia, WA 98504-2600
Phone: 360-596-3906 Fax: 360-596-3934

Electrical Wiring and Equipment

The leading cause of fires in Licensed Care Facilities is electrical wiring and equipment. Electrical wiring and equipment shall be in accordance with NFPA 70, National Electrical Code. 9.1.2. Examples of violations include:

- Misuse of extension cords,
- Daisy chaining of power strips,
- Blocked electrical panels,
- Outlets not GFCI protected, and
- Open junction boxes.

Extension Cords – Extension cords are to be used only for temporary power needs such as vacuuming. Problems occur when the extension cord becomes a substitute for permanent wiring and creates a fire hazard. Solutions include plugging appliances directly to the outlet or installing additional wall outlets. NFPA 70 400-08(1).

Daisy Chains - Daisy chaining of power strips occurs when users need power to areas not adequately serviced by outlets. Power strips should never be plugged into other power strips; they must be plugged directly into wall outlets. Overloaded power can generate excess heat due to an increase in electrical resistance, thereby posing a fire risk. NFPA 70 400-7(b).

Options to replace daisy chained power strips include:

- Obtain a power strip that has a power cord of adequate length to reach an outlet,
- Move desks and appliances closer to an outlet, and
- Have more outlets installed.

Electrical Panels - Electrical panels must have a working space in front of the panel with a minimum of 30” in width, 36” in depth and 78” in height. The area must be clear of storage at all times. When an employee receives a shock from an electrical circuit or appliance in the workplace, shutting off the source of power may be the only safe method of removing the individual from contact with the electric source. It is also critical that circuit breakers are clearly labeled with accurate and up-to-date directories. NFPA 70, 370-29 and NFPA 70 110-26, under “working space”.

GFCI - A ground-fault circuit interrupter (GFCI) is used to protect people from electrical shock hazards when using electrical appliances near wet locations. Outdoor electrical outlets and those in bathrooms and near kitchen sinks are the most common places where GFCI’s are found. GFCI’s need to be tested monthly per the manufacturer’s recommendations. Test GFCI’s by using the test button, to make sure it is providing protection. If an outlet needs to be protected, replace it with a GFCI approved outlet. NFPA 70, 210-8-(a)(1) and 517-20.

Junction Boxes - All junction boxes shall be provided with covers. An open junction box could result in a fire or electrocution hazard. Covers will protect persons from accidental exposure. NFPA 70 370-28(c).

Resources for Licensed Care Facilities - http://www.wsp.wa.gov/fire/insp_resources.htm.